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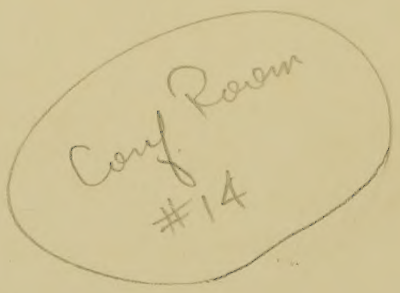

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JEWELLERY OF THE XIITH AND XVIIITH DYNASTIES. RIQQEH.

ANCIENT EGYPT.

TO OUR READERS.

A JOURNAL on Ancient Egypt has long been needed for the five thousand readers of Egyptian history, and several times in the last twenty years it has been proposed to supply this want. There has been hitherto no journal in England or abroad to keep readers acquainted with the advances and discoveries about the principal civilisation of the Ancient World. Egypt appears only occasionally in some periodicals on antiquities in general. The foreign publications on the subject are largely devoted to the single branch of philology, and are not adapted to reach a tenth of those who are interested in the ancient life of Egypt. It seems only fitting, therefore, that the largest society for the study of that country should perform the duty of presenting to the public a view of the advance of knowledge.

During recent years there has grown up an increased interest in the past of man and the course of his changes in life and conditions. Most educated people now feel that the causes and stages of the civilisation that the world now has, and the nature of man which has led him on, is at the very foundation of our view of life,—of our present actions,—of our future expectations. Man cannot be understood except through his own history. This interest in the nature of man is satisfied most widely in Egypt. The history of that land has more continuity than can be found elsewhere, and the age of its known past can scarcely be rivalled in any other country. Prehistoric civilisation is most completely preserved there; and our view of it has been more systematically reduced to order than in any other instance.

When we try to grasp the Prehistoric ages of Europe, it is solely to Egypt that we can turn for any definite scale of history, with which the various periods can be connected. The thousands of years before classical writings can only be gauged by the Egyptian dynasties.

We have, then, to deal with the vital human problem of the nature of man and his development; how he has come to be where he is now. Every intelligent person who looks beyond the day's affairs must feel that the sight of Egypt, with its eight successive civilisations, is more full of meaning and of interest than any other panorama of humanity.

The scope of this Journal of ANCIENT EGYPT is intended to include original articles, by English and foreign writers, on discoveries in the history, the antiquities, and the language; also systematic presentations of the state of knowledge on various subjects of general interest. A special feature will be the summaries of all papers in the foreign periodicals, sufficient to show in detail the movement of research. Accounts of excavations will be given, and notices of antiquities that are brought to light. New books on Egypt will be reviewed and analysed, so as to show how far they would be useful to our readers. Objects of importance in various museums will be brought forward; and a series of whole-page portraits will be given, two in each number. Lastly, notes and news will be provided, archaeological and personal, relating to Egyptian research.

A feature of this Journal will be to make the fullest use of modern facilities of illustration. Wesley said he did not see why the devil should have the best tunes, and we do not see why the world and the flesh should have the best pictures. As many good illustrations as possible will be provided in the text, and also three whole-page plates in each part. The coloured plate of jewellery may we hope be a precedent for each succeeding volume. A head from one of the plates will also be placed on the cover, as a distinctive mark of each part.

The large growth of public interest in Egypt is seen by the flourishing Student Associations, which have been started in recent years in many cities, mostly connected with the British School of Archaeology in Egypt. This journal will be the regular organ of the various branches of the Egyptian Research Students' Association; and it is hoped that it will also be a common centre for similar bodies in other places.

In no sense is ANCIENT EGYPT a substitute for the regular series of annual volumes on the Excavations of the British School in Egypt. Those volumes are essential for presenting the flow of work and discovery by the School. Here the results from various other lines of excavation and study will be given as a whole.

The appearance of this journal has been delayed somewhat, owing to waiting for attempted co-operation with other English enterprise in Egypt. The needs of separate bodies, however, proved to be so different that the issue of separate publications could not be avoided. At the same time we hope to keep our readers informed of all that is done on the subject, from various sources, English and foreign.

THE JEWELLERY OF RIQQEH.

(*Frontispiece.*)

WHILE working in the XIIth dynasty cemetery of Riqqeh, about four miles north of Meydum, I found the tomb in which was the jewellery shown in the frontispiece. Having excavated the shaft, which was a large one, twenty-two feet deep, we came to the usual bricked-up entrance to the chamber. A small hole had been made in the upper courses of the bricking by an ancient plunderer. The roof had collapsed inside the chamber, and on removing the bricks I saw that about twelve tons of the marl had fallen in. The workmen cleared this away, and when they had arrived within a couple of feet of the floor of the chamber, I stayed in the tomb till it was completely cleared.

The original size of the chamber was 100 inches long and 52 inches wide. The coffin, which had been crushed flat, had been laid in the centre of the chamber. Over what had been the foot of the coffin, and across it, could be traced the remains of a skeleton. Over this again were the arm-bones of another body, the remainder of which lay in a heap about two feet from the chest of the first body. It seemed as if it had been suddenly crushed while in a standing or crouching position.

It appears as if the plunderers had removed only a few bricks, so that a man could crawl inside. One of them entered, opened the coffin, and lifted the body out, laying it across the coffin, so that he could easily unwind the bandages. A collar of beads was first found, and passed out to the shaft, where it was left. Then he reached the jewel, fig. 1 at the top of the plate, and lifted it. Before he could take away any more, the roof fell in and crushed both him and the mummy. The robbers, seeing the fate of their accomplice, abandoned the tomb, and filled in the shaft to hide their doings. By a singularly lucky chance this tomb had escaped the attention of later plunderers; perhaps because they saw that it had already been attacked.

The objects upon the body were as follows:—

Fig. 1. Part of a jewel forming the name of *Kha-kheper-ra*, SENUSERT II, the beetle being winged and supported by lotus-flowers. The forepart and one foreleg of the scarab has been broken away, but doubtless it held the disc of the sun, completing the king's name.

On carefully removing a little more of the dust from the chest, I found the gold shell, fig. 4. The cartouche of gold wire, which is soldered on to the shell, is of *Kha-kau-ra*, SENUSERT III, and has a uraeus on each side of the cartouche.

Below this, again, was the pectoral, fig. 2. This was made by perforating a gold plate, and soldering on strips of gold in the form of the design. Each of the cloisons thus formed was filled in with carnelian, lazuli, or turquoise, cut precisely to the form, and fixed with cement. The back of the plate, shown below, was chased with details of the figures. It is of similar work to the well-known jewellery from Dahshur, now in the Cairo Museum, though not quite so elaborate, and it is probably the work of the same hands. It has been suggested that the middle sign is the *sekhem;* and the jewel was perhaps presented by the king as a

badge of the rank of a noble who carried the *sekhem*-sceptre. On either side are two birds standing on *nub*-signs. These birds may possibly be hawks, as *Hor nub*, or Horus on Nubti Set, is a well-known combination; but the birds in this design are not by any means of the familiar conventional type of falcon. At the top of the pectoral is a pair of *uzat*-eyes, with the sun between them; and the design is bounded on either side by papyri. The piece was sharply bent across by the fall of the roof, but it has now been flattened by the skill of Mr. Young at Oxford.

The small gold figure of the god Min, fig. 3, was found behind the neck, having perhaps fallen down when the bandages decayed. With it were a considerable number of cylindrical and long double-bored beads, which were grouped in the bead-collars so usual in the XIIth dynasty. Lower down on the chest were some spherical gilt beads (fig. 5), and some very minute gold beads. A few of the collar beads, and one of the semi-circular pottery ends of the collar, were thrown away in the shaft. I had the whole contents of the chamber and shaft sifted with a fine sieve, and I did all the sifting of the organic matter in the chamber personally. Nothing further was found except one piece of carnelian inlay of the eyebrow and a piece of the eye, which had been knocked out of the pectoral when it was bent by the falling roof.

The whole of this group is in the University Museum, Manchester.

The lower part of the frontispiece shows a group of jewellery from a tomb of the XVIIIth dynasty. The gold necklace, fig. 6, weighs 477 grains. The centre-piece is a plaque of which both sides are here shown. It is inscribed *Sesh Bera*, "the Scribe Bera," and on the other side *Ra-men-kheper Amen-tut*, the prenomen of Tahutmes III, 1503–1449 B.C. Fig. 7 is a kohl-pot of steatite covered with dark green glaze; the form is that of a seated ape holding the pot, the lid of which is here placed above it. Figs. 8, 9, are four gold rings used for fastening the hair, weighing from 105 to 119 grains each. In this tomb were also a large bronze mirror and a rough alabaster bowl. The whole of this group is now in the Royal Scottish Museum, Edinburgh.

At the base is part of a string of carnelian beads, characteristic of the XVIIIth–XIXth dynasty, found broken up in another tomb.

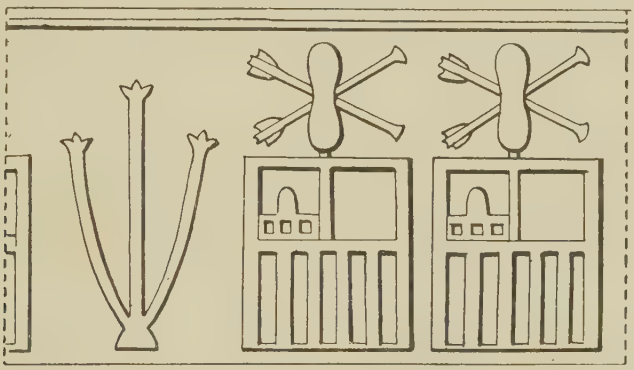
A fuller account, with a larger plate in colours, will appear in the first of the annual volumes *Riqqeh and Memphis* VI.

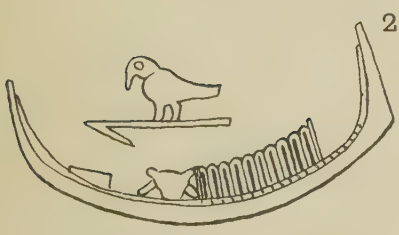
REGINALD ENGELBACH.

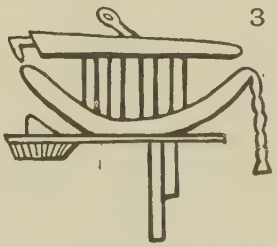
NOTES ON SOME EGYPTIAN NOME ENSIGNS AND THEIR HISTORICAL SIGNIFICANCE.

It is generally recognized that the nomes of Egypt are the survivals of pre-Menite States, and there is abundant evidence to prove that many of these States retained in dynastic times, as nomes, much of their ancient character and liberties. A study of the nome ensigns ought, therefore, to yield us some information concerning the various States of Egypt before the founding of the Monarchy by Menes. The object of this paper is to draw attention to certain compound nome ensigns, and to suggest their historical signification. The religious significance of the nome signs has been already dealt with in my paper on *Some Prehistoric Egyptian Cults*, in the Liverpool *Annals of Archaeology*, Vol. VI, p. 111.

The titulary of the early kings is important in this connection. All the kings of the Ist dynasty bear Horus names, *i.e.*, the Falcon (Horus) of Hierakonpolis in Upper Egypt surmounts the palace façade in which their names are written. They were primarily chieftains of the Falcon Nome, or State, of Upper Egypt. (See my paper on *The Horus-Title of the Kings of Egypt*, in the *Proceedings of the Society of Biblical Archaeology*, Vol. XXVI (1904), pp. 295–299.)







In the IInd dynasty we find with Per-ab-sen that in place of the Falcon upon the palace façade there is a *Set*-animal, which certainly indicates that the chieftains of the nome had gained the supremacy in Egypt, that they had overthrown the Falcon chieftains and seized the throne. With Khasekhemui the palace name of the king is surmounted by the *Set*-animal on one side, and the Falcon on the other, which suggests an alliance between the royal families of the and the nomes. After Khasekhemui, the *Set*-animal is never again found above the

palace name of a king, but the Falcon invariably appears upon it. Another nome ensign appears over the palace name of Menes' queen, Hotep (see Fig. 1): this is the ensign of the Saite Nome of Lower Egypt, and suggests that Hotep was the hereditary chieftainess of Sais, the pre-Menite capital of the kings of Lower Egypt.[1] By his marriage with this royal lady, Menes united the thrones of Upper and Lower Egypt.

On the Slate Palette of Narmer (Menes) there is a scene representing the king smiting the chieftain of the Harpoon kingdom (in the north-western corner of the Delta), and on the verso of the same palette there is a scene showing Narmer inspecting the beheaded bodies of his foes. Above this scene is a large boat over which is a Harpoon with a Falcon standing upon it (Fig. 2). This Harpoon upon a boat is the ensign of the Harpoon Nome (Fig. 3) and the Falcon standing upon it indicates, according to the usual Egyptian convention, the conquest of the Harpoon kingdom by the chieftain of the Falcon clan.

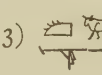
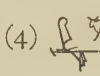
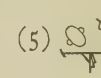
Now among the nome ensigns of Egypt there are several which represent the Falcon standing on, or by, the distinguishing sign of a nome. For example, the ensign of the Western or Libyan Nome is . This is a compound ensign and records the conquest of the clan by the Falcon chieftains. When this conquest took place we do not know, but it was probably some time just before the establishment of the Monarchy, when the Falcon army were pushing their way up to the Mediterranean. Another nome ensign surmounted by a Falcon is that of the Oryx nome . This ensign with the Falcon upon the back of the Oryx only occurs in late inscriptions. The Oryx was one of the Setian animals and it was perhaps during the wars of the "Followers of Horus" (*i.e.*, the Falcon people) with the Set clan, towards the end of the IInd dynasty, that this conquest took place. To the east of the Oryx Nome there was a small district with for its ensign (*Beni Hasan*, I, Pl. XXV, l. 35). Here, perhaps, was a small colony of the clan (see next page) from the Delta, which had been vanquished by the Falcon people.

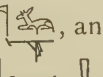
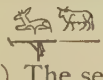
To the south of Middle Egypt there were two large nomes having for their ensigns and respectively. Here in prehistoric times was probably a great "Cerastes"-worshipping clan, which was vanquished by an expedition from the Herakleopolitan and Xoite people, the former taking possession of the land on the western bank, the latter, the land on the eastern bank. In historic times there are several indications of the close relationship between the Herakleopolitans and the people of the nome.[2]

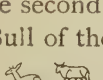
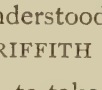
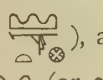
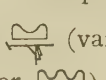
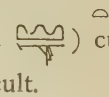
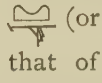
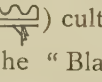
[1] The names of certain of these pre-Menite kings are found in the top register of the Palermo Stone. The determinative used in writing their names is the king wearing the Neith crown .

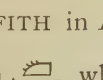
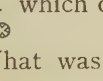
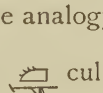
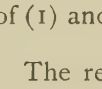
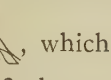
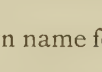
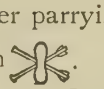
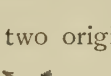
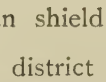
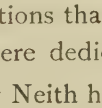
[2] That the chieftains of Siut were the powerful adherents of the Herakleopolitan kings is well known, but there is a significant passage in the inscription of Kheti II (GRIFFITH, *Siut and Der Rîfeh*, Pl. XV, l. 2) dealing with the canal of his district, in which he says that he "brought a

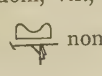
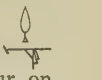
Turning now to the Delta nomes we find a remarkable group of compound ensigns, in which, behind the distinguishing sign of the nome, there is a figure of a Bull. In the Old Kingdom there were four of these ensigns, and later a fifth appears. These are :—

(1) . (2) , var. . (3)  . (4)  . (5)  .

(1) A late variant of the first is  , and the name of the capital of the nome for which the ensign stood was *Tb-ntr*, the Greek Sebennytos, the Arabic Samanûd. *Tb-ntr* means the "Divine Calf," and this was the sacred animal of the  nome.

(2) The second ensign has been understood to mean the nome of the "Wild Bull," the Bull of the or desert (GRIFFITH in *Ptah-hetep* II, p. 27). On the analogy of  we ought, I believe, to take the  or as being the cult object of the people of the nome. The sacred name of its capital was (var. ), and as we know that there was an important  (var. ) cult,[1] the (or) in this ensign clearly stands for the  (or ) cult.

(3) The third ensign is usually spoken of as that of the "Black Bull" (GRIFFITH in *Ptah-hetep* II, p. 27). The name of its capital, however, is sometimes written  which on the analogy of (1) and (2) suggests that there was a cult of the  . What was this  cult? The reading of the sign gives us  or , which is a well-known name for the shield. In the Pyramid Texts[2] we actually find  =  , *i.e.*, it is a word-sign for the slender parrying shield which is figured in early inscriptions in the compound nome-ensign  . This compound nome ensign consists of two originally separate cults (1) the -shield (*ikm*) and (2) the crossed arrows  (*nt*). For an Egyptian shield cult we have the authority of Aristides, who mentions that there was a district in Egypt sacred to Athena (Neith) where shields were dedicated, but he unfortunately does not give us the name of the place. Now Neith had a temple in  , and as we have seen = , it seems probable that  is the district to which Aristides alludes;

gift for this city (*i.e.*, Siut), in which there were no families of the Northland, nor people of Middle Egypt." Breasted, commenting on this passage (*Ancient Records*, I, 407, note *b*) says :—"The remarkable statement perhaps means that no forced labor was employed on the canal, from any part of Egypt composing the Herakleopolitan kingdom, viz., the *Northland* (Delta) and *Middle Egypt*." It means, I think, that the colonists from the  nome (in the Delta), or from the  nome (in Middle Egypt), who resided in the nome were exempted from all forced labour on the canals.

[1] On this cult see my paper in the Liverpool *Annals of Archaeology and Anthropology*, Vol. I, pp. 24 *et seqq*.

[2] Ed. Sethe, 252, 431. Compare also (227) for .

that it was, in fact, the seat of an early shield cult. Thus, I take it, in the nome ensign the is a word-sign for the cult-object of the nome.

(4) Regarding the geographical position of the (Fig. 4) nome we have no evidence; but that it was in the Delta, and somewhere in the neighbourhood of the other "Bull" nomes, is probable. The cult-object here is clearly a sickle.

(5) The fifth ensign, which first appears in the New Kingdom, has a -sign in front of the Bull, and the name of this nome's capital was *Hsb·t*, which is one of the readings of the -sign. This would lead one to suppose that there had been, at some time, a cult of the . Whatever this represents does not concern us here, but the interesting fact is that the sign serves to differentiate the nome ensign from the other ensigns of this "Bull" group.

Now in the "Bull" ensigns that we have been studying it is to be observed that the Bull stands behind, and is moreover figured on a much larger scale than the distinguishing cult-sign. The Bull was, we know, a very important cult-animal of the Central Delta, and indeed the Central Delta district is sometimes represented by the Bull upon a perch without any distinguishing sign before it. This last fact, and the occurence of the Bull upon the five ensigns mentioned above, suggests that a Bull-worshipping clan had become supreme in the Central Delta in pre-Menite times. On several of the archaic Slate Palettes the king is actually figured in the likeness of a Bull, and from the IVth dynasty onwards he is often called the "the Strong Bull." In these Delta "Bull" names we have, I believe, evidence of a pre-Menite "Bull" kingdom.

Before concluding these brief notes on the nome ensigns I may bring forward one more fact that is of interest concerning them. A certain number of the ensigns are surmounted by the ostrich feather; this feather appears not to be a sign of conquest but an indication of race. It was the characteristic symbol of Libyan tribes, and whenever it appears above an ensign it indicates a colony of Libyan people; in other words, the ensign that it surmounts was originally a Libyan cult.

PERCY E. NEWBERRY.

NOTE.—In connection with the preceding paper it may be observed that of the Bull nomes discussed here VI, X, XI, XII, the evidence of the historical development is that X, Athribis, *Ka kem*, is the original centre. It was the only one of these which had the festival of the Corn-Osiris (*Historical Studies*, VIII). Nomes VI, Xois, *Ka-khas*, and XII, Sebennytus, *Ka-theb*, appear next, just before the order of the nomes was finally arranged in river lines. Lastly came XI, Pharbaithos, *Ka-heseb*, a region where Set was still the deity in historic times.

These four nomes occupy the middle Delta, and with them must be grouped by its position IX, Busiris, which had one of the greater relics of Osiris, and so preceded VI, XI, and XII, in its growth. That Osiris could be looked on as a bull is shown by Osiris of Sheten Pharbaithos being called "the bull" (DE ROUGÉ, *Geog. Basse Eg.*, 70).

As to the ostrich feather, though a Libyan sign, it also seems to be a divine sign in early times, appearing in the Ist dynasty on the backs of animals that were worshipped. Perhaps it owes this meaning to its being the *shed-shed*, the vehicle of the soul mounting to heaven.

F. P.

MOON-CULT IN SINAI ON THE EGYPTIAN MONUMENTS.

THE monuments found in Sinai contain information which points to the existence of moon-worship in the Peninsula at a remote period in history. These records consist of rock tablets which were engraved by the Pharaohs from the Ist to the XIXth dynasty, over the mines which they worked at Wady Maghara, and of remains of various kinds discovered in the temple ruins of the neighbouring Sārbut el-Khādem or Serabīt. The Egyptians went to Sinai primarily for the purpose of securing copper and turquoise, which are found in a ferruginous layer that appears in the mountainous district of the western part of the Peninsula.

The mines at Serabit lie in the vicinity of two adjacent caves facing an extensive site of burning, which has the peculiarities of the high-places of which we hear so much in the Bible. These caves formed a sanctuary which, judging from what is known of ancient sanctuaries in Arabia generally, was at once a shrine and a store-house, presumably in the possession of a priesthood or clan, who, in return for offerings brought to the shrine, gave either turquoise itself, or the permission to mine it in the surrounding district. The sanctuary, like other sanctuaries in Arabia, was under the patronage of a female divinity, the representative of nature-worship, and one of the numerous forms of Ishthar. In the XIIth dynasty, when the Egyptians gained a permanent foothold at Serabit, they identified this divinity as their own goddess Hat-hor. The figure of Hat-hor appears again and again on the wall-decorations of the temple buildings; her head surmounts the columns of a chamber in front of the cave, and in the inscriptions she is called, at first, "mistress of the turquoise country"; and later, simply "mistress of turquoise."

There are many Hathors in Egypt, but the form that is shown in Sinai is Hathor with a headdress of cow's horns which enclose the orb of the full moon. The form is familiar in Egypt also, and the association of Hathor with the moon-cult at home was apparently the reason why she was chosen as the Egyptian representative of the female divinity of Serabit in Sinai.

5. AMENEMHAT III, Thoth and Hat-hor. Maghareh. (*Researches in Sinai*, Fig. 55.)

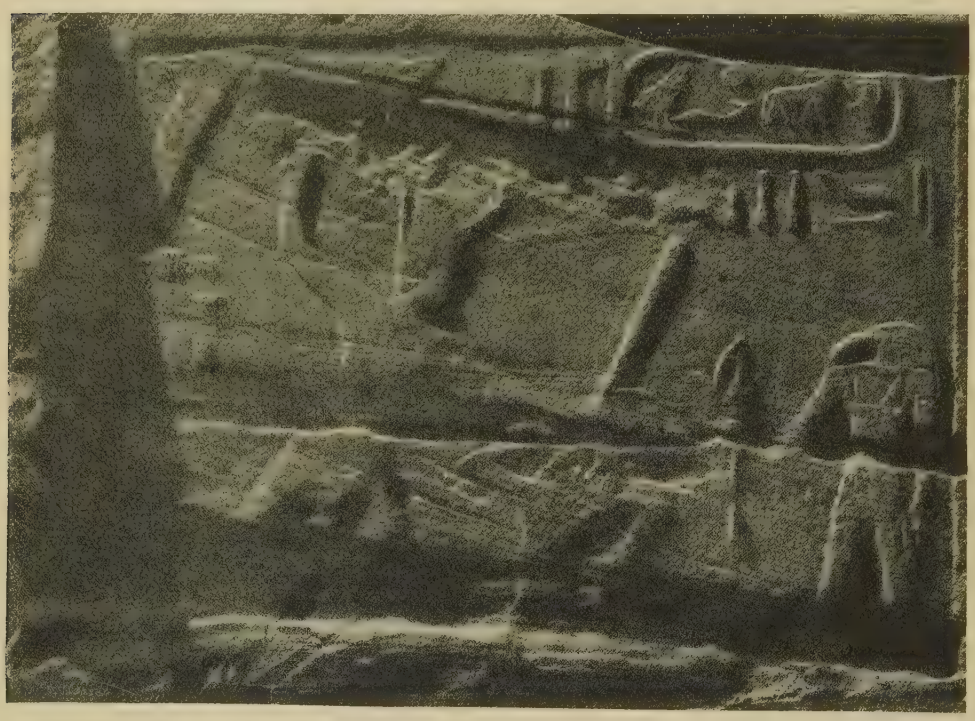
Hathor appears on the monuments of Serabit from the XIIth dynasty onwards. In one instance we find her represented also at Wady Maghara. The Egyptian monuments at Wady Maghara consist of tablets that were carved on the living rock above the mines, in order to commemorate the hold which the Pharaohs here gained over the country. The tablet on which Hathor is seen is of Amen-em-hat III (XII, 6) and is throughout of a peaceful character. The king is represented facing the ibis-headed figure of Thoth, who holds out to him a staff on which are the *ankh* and the *dad*, signs of life and stability, and Hathor stands behind Thoth.

This introduction of Thoth likewise bears on the moon-cult of the Peninsula, for the Egyptian god Thoth was originally a lunar divinity. His chief shrine

during historical times was at Hermopolis in Lower Egypt, where he was represented as ibis-headed. But he was also represented under the form of a baboon, or a baboon was associated with him.

The tablet of Amen-em-hat III seems to indicate that Thoth, in this capacity of a lunar divinity and as the representative of the moon-worshippers of the Peninsula generally, was well disposed towards the Pharaoh of Egypt; Hathor, mistress of the turquoise, was in attendance on Thoth as the representative of the neighbouring district of Serabit.

This interpretation of the scene is confirmed by earlier monuments. A rock-tablet of Ra-en-user (V, 6) at Wady Maghara, which is much broken, shows the figure of Thoth, who probably faced the king. On the other part of the tablet the king is seen smiting the enemy, who crouches before him, and a large libation vase, supported on three *ankhs*, emblems of life, is accompanied by words to the effect that "the lord of foreign lands gave coolness." Here Thoth, the lunar divinity, also appears in friendly relation with the king; the king smites the enemy, and by doing so gains the approval of the lord of foreign lands.



6. "KHNUMU-KHUFU, the Great God smiting the Anu" before Thoth. Wady Maghareh. (Palestine Exploration Fund.)

Again the tablet at Wady Maghara, of King Khufu (IV, 2) the great pyramid-builder (now unfortunately destroyed), represented the king smiting the enemy, and doing so actually before the ibis-headed figure of Thoth (Fig. 6). The king here again is acting in agreement with the lunar divinity, whom he is honouring by smiting his foes.

Other finds point in the same direction, confirming the belief that the Egyptians looked upon the inhabitants of Sinai as moon-worshippers.

Thus, the figure of a baboon, the animal or incarnation of Thoth, was discovered at Serabit during the excavations of 1905–1906. The figure is of sandstone, worked in a rude style, and was found in the holy cave itself. This figure is now in Oxford. Another figure of a baboon, life-size, and worked in limestone with an inscription around its base, came out of one of the store-chambers that adjoined the cave. If I mistake not, it was of the Middle Kingdom. These baboons, emblems of the lunar divinity in Egypt, were presumably considered for this reason suitable offerings to the sacred shrine of a people who were themselves moon-worshippers.

The rude figure of the baboon that was found at Serabit is similar in character and workmanship to figures of baboons that were found at the primitive shrines of Abydos and Hierakonpolis in Upper Egypt. The baboon was here, perhaps, originally the holy animal, the cult of which was overlaid in predynastic times by the cult of the god Osiris. Many figures of baboons, over sixty in one instance, were found in the earliest levels of the temple at Abydos, that were excavated in the winter of 1903–1904. Their position showed that they had been discarded at an early period of history. The likeness in character of the baboon found in Sinai to the baboons found in the early levels at Abydos and Hierakonpolis suggested that the emblem of the baboon was carried to Sinai at an early period in history.

7. Sandstone Baboon. Serabit. (*R. Sin.*, 127.)

8. Glazed Baboon. Hierakonpolis. (Univ. Coll. L.)

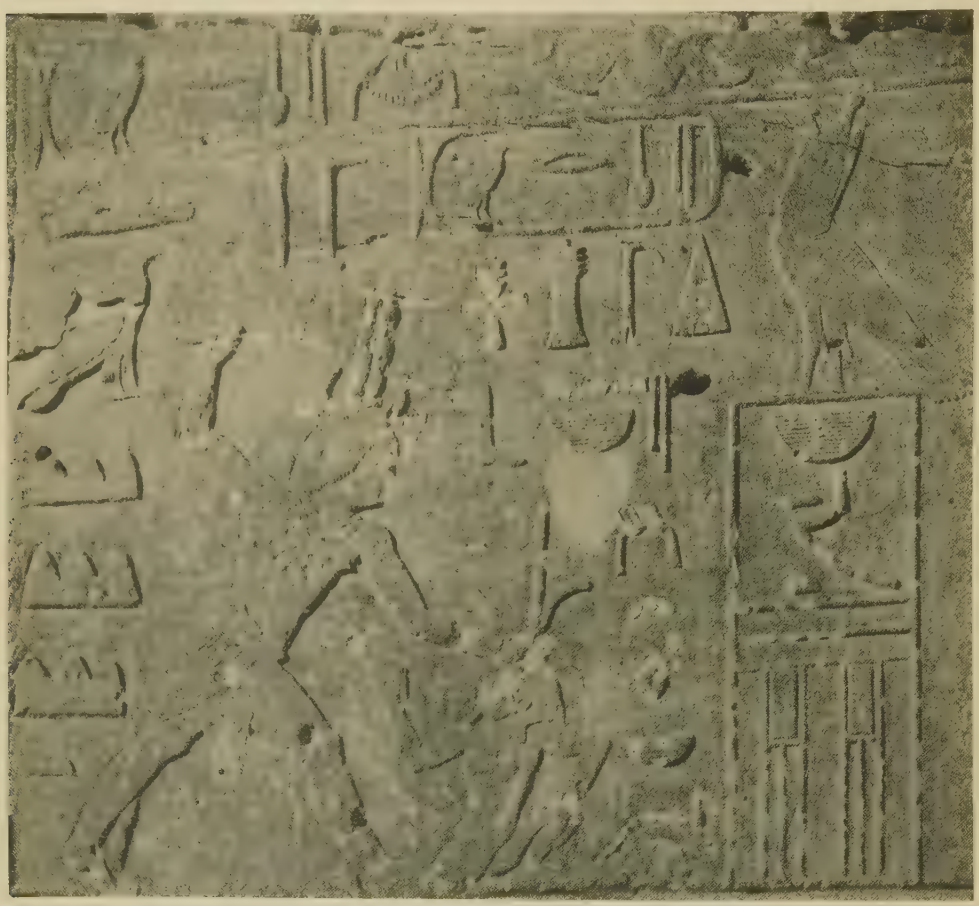
9. Glazed Baboon. Abydos. (Univ. Coll. L.)

The Egyptians from the earliest times approached the shrine at Serabit in the character of quasi-worshippers, and judging from the remains and offerings that were found in the caves themselves, and in the adjoining row of store-chambers, their relations with the centre were throughout of a friendly character. For here already King Sneferu (III, 9) deposited as a gift the figure of a hawk, his favourite emblem, found likewise in his funeral temple in Egypt, the inscription and workmanship of which show it to be a contemporary monument.

Sneferu (III, 9) who thus figured as a quasi-worshipper at Serabit, appears as a smiter of the enemy at Wady Maghara. On his rock-tablet he is seen as a smiter, wearing a headdress that consists of a double plume that rises from a pair of horns. The double plume is well known, but such horns are foreign to Egypt. Again these horns point in the direction of moon-worship, for they recall

the lunar horns that are worn by the moon-god and his devotees on ancient Babylonian seal-cylinders.

On the scene of smiting, as we see it represented at Wady Maghara, the Pharaoh wields his mace over the enemy whom he holds by his top-knot, together with a spear and a curved object which he seems to have taken from him. The curved object is probably a boomerang, or throw-stick; the man is of Semitic type, not unlike the better Bedawy of to-day. The earliest tablets at Wady Maghara contain little wording beyond the titles of the king. But Sneferu



10. "SNEFERU, the Great God, ravaging the Lands," before his *ka* NEB-MAOT.
(*Researches in Sinai*, Fig. 50.)

(III, 6) who wears the lunar horns is called "great god smiting countries," or barbarians; King Khufu (IV, 9) who slays the enemy before Thoth is called a "smiter of the Anu," Sahura (V, 2), and later kings of the Vth and VIth dynasties are described as smiting the Mentu. The Anu are mentioned on the Palermo Stone in connection with a king whose name is broken away, but who is probably Den-Setui, fifth king of the Ist dynasty, as he is known to have made expeditions into Sinai. The Mentu was the ordinary word that was applied by the Egyptians to the Asiatics. As the Pharaohs were acting in concert with moon-worshippers in Sinai in attacking the Anu and the Mentu, we are left to infer that these were not moon-worshippers themselves.

The Egyptians went to Sinai in order to secure turquoise and copper. Turquoise has been found in Egypt in Neolithic graves; for copper there would

be an increasing demand on all sides from the close of the Neolithic age. The Egyptians were always on friendly terms with Serabit, the centre of the turquoise district. It was at Maghara, between the Ist and the Vth dynasty, that they came into conflict with the invading Semites who disputed with them the possession of the mines.

The association of Sinai with moon-worship is in keeping with what is known from Semitic sources.

The Moon-god in early Babylonia was known under various names and epithets. As Ea, or Ya, he was looked upon as the oldest Semitic god of Babylonia, to which his coming brought the artificial culture of the date-palm, probably by way of the Persian Gulf. Ea, like Thoth, is esteemed the source of wisdom and culture, and Eabani, his devotee, was represented wearing lunar horns similar to those that are worn by Sneferu. A later name of the Moon-god among the Semites was Sin. As Sin, the name forms part of the name of Naram-Sin, king of Agade, whose date is about 3750 B.C., and whose actions, as we learn from his Annals, were considered in the light of lunar influence. The Moon-god, as Sin, had a sanctuary at Ur of the Chaldees, the starting place of Terah and Abraham, and a sanctuary at Haran, in Northern Syria, the place to which they migrated; and the name Sinai itself is connected by scholars with Sin. The name appears in three forms in the Bible in the list of the stations of Exodus, which stand in Chapter 33 of the Book of Numbers, which is apportioned by the higher critics to the Elohist, the earlier source of the Hexateuch. There is named the wilderness of *Sin*, the desert of *Sinai*, and the wilderness of *Zin*—places that lie in different parts of the Peninsula—which point to a general association of the country with moon-worship.

The list of the stations of Exodus has the appearance of a contemporary record. It establishes the association of moon-worship with the Peninsula about 1300 B.C. The Egyptian monuments, as we have seen, carry this association several thousand years further back in history.

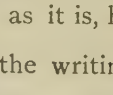
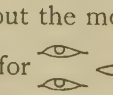
LINA ECKENSTEIN.

THREE STELAE AT GRAZ.

As far as I was able to ascertain the Egyptian monuments at Graz have never been studied. Years ago Prof. Strzygowski sent me photographs of the three stelae which I am publishing here. The most remarkable one is Fig. 11, showing King Sebekemsaf presenting wine or some other liquid, to the god Ptah-Sokaris, of whom the king is beloved. Unfortunately, we cannot make out which of the Sebekemsaf kings of the XIIIth dynasty is the king here mentioned. The style of the monument (H. 0·42 m., B. 0·22 m.) shows the somewhat rude art of the late Middle Kingdom. Limestone, from Thebes.

11. SEBEKEMSAF offering to Ptah-Seker who gives him life.

12. MERTITHA making a drink-offering to Horaăkhuti, Great God, Lord of Heaven.

Fig. 12 is a small limestone stela which is of the rough work usually found in the late New Empire. The dead, the son of NESQA'MIN, MERTI-R-ZA' is praying before Horus. For the names compare LIEBLEIN, *Dictionnaire*, 2414 and 2411, 2346. The style of the relief, bad as it is, hardly allows us to put the monument later than 700 B.C.; in this case the writing  for  , is interesting as one of the oldest examples of the use of the Ptolemaic system of writing in private names. No traces of colour. H. 0·205 m., B. 0·125 m.

Perhaps the finest piece of the three, from an artistic point of view, is the portion of a limestone stela, Fig. 13, H. 0·33 m., B. 0·28 m. In the upper register one named MINEPTAH-NFU-'EA' (Merneptah-nefu-oă) prays to Osiris Chenthamenthes Onnofris (Khentamenti Un-nefer). Below, a priest with a leopard's skin round his shoulders burns incense to Osiris. The elegant, though not very delicate work, points to the XIXth or XXth dynasty. The reading of the names is not certain, and I have no hand copy of this monument.

FR. W. VON BISSING.

13. MERNEPTAH-NEFU-OA adoring Osiris Khentamenti Un-neter.

EGYPTIAN BELIEFS IN A FUTURE LIFE.

(The Drew Lecture, November, 1913.)

THE remote view which we gain in the literature and customs of Egypt is the longest vista into the growth of mind and ideas that is open to us. In no other land are there such full written materials, such abundant details of funeral ritual, and so complete an historical record to fix the relation of all the developments that are found. Egypt is, therefore, the most favourable ground for studying the growth of beliefs regarding the nature and the future of the soul.

The beliefs about the soul are closely bound up with the theology. The functions of the gods of different races which entered the land, naturally determined the relations of the soul to the gods in the future. Hence it is necessary to notice the main changes in religious beliefs, and to refer to the principal gods of each cycle; but our subject will be simplified by avoiding the theology where it is not essential to the views regarding the soul.

In order to realise the historical setting of the growth of belief, we must first briefly state the periods of thought which we have to regard in this question, beginning with what is best known. In the (1) Christian Age there survived many reflections of the older faiths, especially on points not decided by Apostolic teaching. The (2) Alexandrian age was greatly pervaded by Syrian, Persian, and Indian thought, as seen in Philo, the Book of Wisdom, and the Hermetic books. The rise of this was doubtless influenced by the sense of personality and ethical right, in the sixth to the eighth centuries B.C., seen in Ezekiel, Hesiod, and Piankhy the Ethiopian. In (3) the Age of the conquest of Syria by the Thothmides and Ramessides, 1200–1600 B.C. (which we might call the Exodus Age), no doubt Oriental influences were at work, mainly seen in the bursts of solar monotheism which soon disappeared. The so-called Book of the Dead was the popular guide to the future world in this age. (4) The previous great civilisation of the Xth to XVIth dynasties shows a growth of personal enquiry, some agnosticism, and the development of the belief in the Osirian Judgment of the Dead. This period is put at about 2000 to 4000 B.C., by the uniform and consistent statements of the Egyptians. Before this was (5) the Pyramid Period, 4000 to 5000 B.C., from which we have the long Pyramid Texts, the earliest compilation known, mostly from much more ancient sources. Of the earlier stages we can broadly distinguish three; these are (6) the Heliopolitan eastern sun-worshippers, 5000–7000 B.C.; (7) the western Osiris-worshippers, of 7000–8000 B.C.; and the (8) primitive animal-worshippers, perhaps Palaeolithic, before 8000 B.C.

It may seem surprising to refer to any religion in Palaeolithic times. Yet the precision of the funeral ritual extends back to the earliest Neolithic graves that we know in Egypt, and offerings accompany burials in Europe back to the age of the Cave men. The sun-worship, which is dominant in the Pyramid Texts, cannot be due to the Vth dynasty in which Heliopolis was prominent, but must belong to the much earlier rule there of the Delta kings. This is shown by the general tone of the civilisation which underlies the religious texts. To take one instance: the dead king is often stated to depend on reed floats to cross the waters of death, while boats and ships had been familiarly used throughout the

second Prehistoric Age, 5000 to 7000 B.C. Had the magic texts originated later than that, boats would have been pre-supposed in all cases, and the more primitive floats would not have appeared. Thus the sun-worship ideas (6) must be put as early as we have stated, and before those lie certainly two earlier strata of belief. We have now stated the general position historically.

The actual sources of information are (A) the wide-spread funerary customs, as recorded from many excavations; (B) the Pyramid Texts, edited by Dr. Sethe, translated into French by Sir Gaston Maspero, and discussed in English by Prof. Breasted, in his *Development of Religion and Thought in Ancient Egypt*, (referred to as *Br.*); (C) the Coffin Texts published by Lacau, but not yet translated; (D) the Book of the Dead, best translated by Renouf.

The earliest stratum of ideas that we can distinguish before the rise of the cult of Osiris, or the sun-worship, is doubtless an accumulation of several earlier stages: the history of those is beyond recall. Whether we shall ever be able to distinguish these primitive strata by any contemporary facts is very doubtful; but possibly the finding of some cemetery earlier than any yet known, or of some group of neighbouring tribes, may show the dividing lines of the periods.

The animal-worship, and the most primitive deities reputed to be the parents of the gods, are the earliest ideas which we can distinguish. Animism appears in the spirit of the tree which guards the cemetery, and is the Tree-goddess shown in later pictures as giving food and drink to the dead. Certainly the dead were supposed to have a continued existence, as food offerings are found in the very earliest graves. A remarkable idea, described later, is that dead persons head downward were malignant, and were enemies of the good dead who stood upright. This very crude idea was probably derived from the symbolism expressed in a prehistoric painting, where a defeated enemy is portrayed head downward. It seems that this must have originated in the earliest days of savagery, and be part of the most primitive thought about the future life.

The earliest deities that we can trace are the feminine heaven, Nūt, and the masculine earth, Geb. It may seem strange that the Nile and the Sun, the present essentials of Egyptian life, were not the first objects of worship. But the order of selection agrees with the conditions of the country at that remote age. It is probable that rainfall continued, and hunting, not agriculture, was the task of man, until the beginning of the prehistoric Osirian civilisation. The hymn to Nūt preserved in the Pyramid Texts is regarded as the oldest fragment of the ritual (*Br.* 95, 148). It traces the birth of the sky from Shu and Tefnut, space and fluid (aether and chaos), mere abstractions which were never worshipped. The purpose of the hymn is to beseech Nūt to give benefits to the deceased (*n*), who is thus supposed to have gone to the sky. "Geb (the Earth-god) is come to thee, O Nūt, and thou art become strong. Thou didst rule in the body of thy mother Tefnut (chaos) when thou wast not yet born; give (*n*) life and strength that he may not die.

"Take rule in thy heart and come forth from the body of thy mother (chaos) in thy name of Nūt (sky). Strong one, daughter who is ruler of her mother, and who arises as queen of the Delta; protect this (*n*) who is in thy body that he die not.

"O Great One who is produced in heaven and there rules, thou hast come, thou hast filled all places with thy excellence, the whole land is under thee, and thou hast taken it, thou hast embraced the earth for thee, and all things are in thy arms; grant this (*n*) to be like an indestructible star within thee.

"Thou art not separated from Geb in thy name of Heaven, and thou protectest the whole land in all places.

"O Thou who stretchest thyself above the earth, above thy father Shu (space, or aether, which separated heaven from earth), and who rulest over him, because he loves thee and puts himself and all things under thee; seeing that thou hast taken each god unto thee with his boat in order that they wander not from thee like stars, let not (*n*) wander from thee in thy name of Guardian."

Here the heaven, Nūt, is appealed to (1) by her vitality, to give life to the dead; (2) by her ruling powers, to protect the dead; (3) by her control of all things, to give a place to the dead like an indestructible star, that is, one of the circumpolar stars that never set; (4) by her guidance of the gods who sail in their boats across the sky, to guard the dead likewise from wandering away.

From this we gain the first view of the position of the dead. They were immortal; they went to the sky, not to the Earth-god, Geb; they were not to suffer extinction and re-birth, but to be always above the earth like the northern stars. All this belongs to an earlier stage than the Osiris-worship: to a stage from which Osiris raised man by teaching agriculture and giving laws, according to the Egyptian tradition. It is the stage of a savage life of hunters, before the rise of the prehistoric civilisation,—the stage when a dead enemy, turned head downward, became a malicious spirit. Yet the essential ideas of spirit, of immortality, of a life in the sky, are all dominant.

This future life needed to be sustained, and various provisions for its benefit were placed in the grave. We have not yet found any graves dating back before the Osirian Age, but there can be no doubt that the custom of placing food and weapons in the grave belongs to at least as early a stage as the conception of the dead going to the Sky-goddess.

To this pre-Osirian Age must also be assigned the cannibalistic idea of eating the gods to acquire their qualities. Such an idea cannot have arisen when only a few mighty anthropomorphic deities were recognised; it belongs to the half-animistic age, when a multitude of spirits peopled the future life, and might be caught like cattle. The dead "is one who eats men and lives on gods"; various of his ministers lasso the gods, and stab them, take out their entrails, cut them up, and cook them. The dead "is he who eats their charms, and devours their souls; their great ones are for his morning portion, their middle ones are for his evening portion, their little ones are for his night portion, their old men and their old women are for his oven. It is the Great-Ones-North-of-the-Sky who set for him the fire to the kettles containing them, with the legs of their oldest ones as fuel" (*Br.* 128). It would be impossible to put in the Osirian Period the orgies from which this feast is described; they obviously belong to the ages before Osiris is said to have civilised the Egyptians.

Connected with this is also the ritual of dismemberment of the dead. The allusions to this are frequent, even in the comparatively late compilation of the Book of the Dead. There is no reason to doubt their literal detail when we find many instances of this unfleshing of the dead continuing through the Prehistoric Age, and even into the Pyramid Period. The reason asserted for this custom was the purifying of the dead from all his evil. The reconstruction of the body is often mentioned, and the returning of the head to it.

We have now noticed the main ideas which appear to belong to the earliest age that we can trace; they doubtless are really of varying strata and sources, beyond

our present analysis, but at least we may say that they precede the Osiris- and the Solar-worship, and are probably earlier than the prehistoric civilisation.

14. NŪT, the starry goddess of heaven, overarching GEB, the earth, covered with reeds. She is supported by SHU (space); over her back rises and sets the boat of RA. (LANZ., *D.M.*, CLV.)

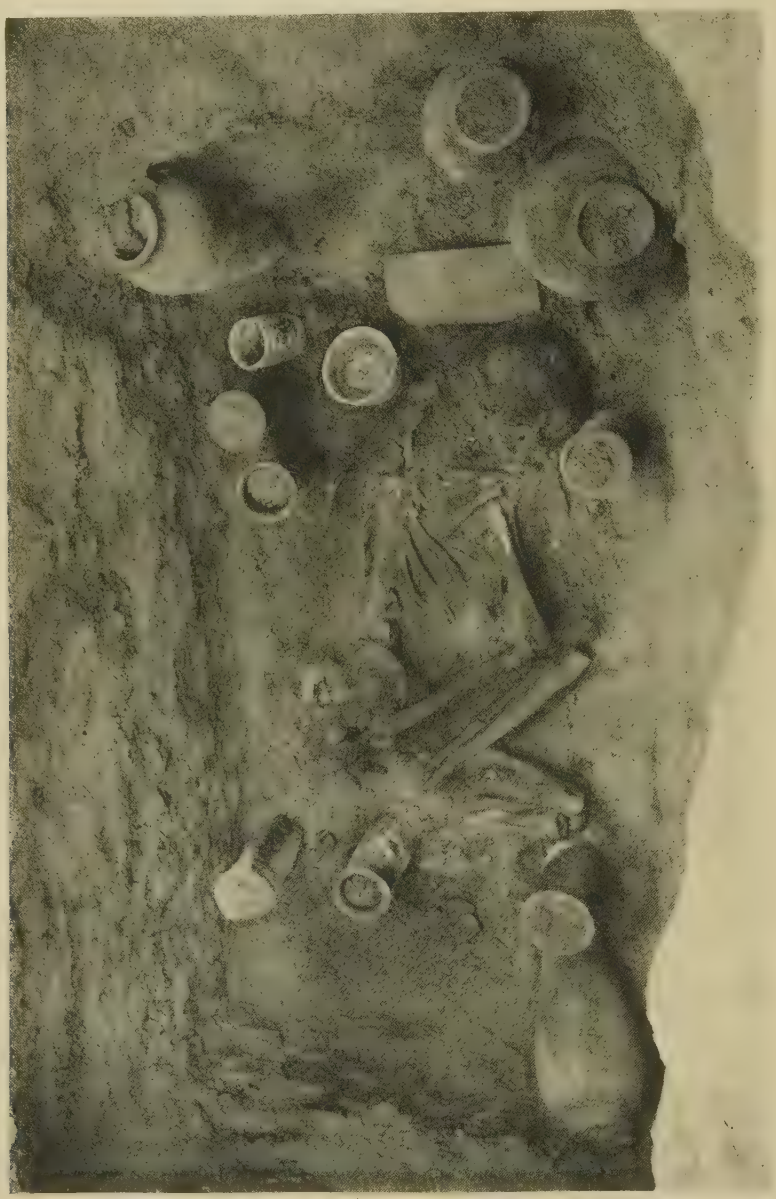
When we view the Osiris cycle of gods, belonging to the first prehistoric civilisation, the earliest of them appears to be Set, in later times driven out, cursed, and extirpated, yet strangely coming up again in the name of one of the greatest kings, Sety. The oldest myth about him is that he is in charge of the ladder by which the dead ascend to the sky (*Br.* 153). This idea of the ladder must belong to the age before the antagonism of the tribes of Set- and of Osiris-worshippers, which caused Set to be proscribed; and also before the rivalry of the Set and Horus tribes. To the dawn of the Osirian Period must belong, then, the belief in some aid of steps or ladders to get up to Nūt, the heaven, where the dead were to dwell. This idea long survived, as in the XXIInd Chapter of the Book of the Dead we read of Osiris "who is at the head of the staircase," and in Chapter CXLIX the dead says: "I raise my ladder up to the sky to see the gods," with a vignette of a flight of stairs. Amulets of stairs are found as late as the Greek Period.

15. The stairway up to heaven guarded by Sekhmet. Papyrus of Asar-auf-ankh. (LEPS., *Todt.*, LXXII.)

The Osiris-worshippers always regarded the west as sacred and blessed, and probably, therefore, it was the home-land whence the Osiris tribes came into Egypt. The dead are laid facing the west, according to the custom of looking to the home-land familiar among other races.

We reach at this point the beginning of the continuous civilisation of Egypt which can be traced every generation onward in unbroken order. The constant

position of the dead in the graves, head to south, on left side, facing west, and the constant position in which the principal kinds of offering jars are placed, all show that a definite ritual of burial existed, and fixed views regarding the future.



16. Contracted burial of the age of MENA with offering jars. (Grave 1870, Tarkhan.)

The great feature of the Osiris mythology was his resuscitation after death. In the Pyramid Texts we read: "Though thou departest, thou comest again; though thou sleepest, thou wakest again; though thou diest, thou livest again." Isis and Nebhat are "thy two great and mighty sisters, who have put together thy flesh, who have fastened together thy limbs, who have made thy two eyes to shine again in thy head" (*Br.* 32). Hence, as the king and the dead were identified with Osiris, they shared in the same revival. The same process of reconstitution was needful for all the dead as for Osiris, probably descending from the custom of unfleshing and

cleansing the bones. As Breasted sums up: "We may summarise it all in the statement that after the resuscitation of the body there was a mental restoration, or a reconstitution of the faculties, one by one, attained especially by the process of making the deceased a 'soul,' in which capacity he again existed as a person, possessing all the powers that would enable him to subsist and survive in the life hereafter."

17. HORUS and ISIS resuscitating the mummy of OSIRIS UNNEFER. Abydos.

The development of the Osirian Kingdom of the Dead, and all its consequences, begins to appear in the Osirian revival after the Pyramid Texts, and so does not come into our view of the dead in the prehistoric time.

The next change was an invasion from the East which brought in many new elements of the second Prehistoric Age. The material culture changed considerably, the influences are proto-Semitic or Eastern, rather than Western as before. The sun worship of the god Ra became dominant, and probably centred at Heliopolis. Osiris had to give way; "Ra-Atum (Ra of the East) does not give thee to Osiris. Osiris numbers not thy heart, he gains not power over thy heart. Ra-Atum gives thee not to Horus. He numbers not thy heart, he gains not power over thy heart. Osiris! thou hast not gained power over him; thy son (Horus) has not gained power over him." Osiris was even arraigned and judged by Ra in the Great Hall of Justice at Heliopolis.

The East was the sacred region of these people from the East. The dead had to go eastwards to join the Sun-god, and they were warned from going westward. On the eastern border of the land lay the Lily-lake over which the dead must pass. Sometimes he is said to be ferried in a boat, and the boatman has to be bribed or cheated into taking him over; sometimes he has to paddle over on two floats of reeds, or even to swim, an idea older than the shipbuilding time of the second Prehistoric Age.

Amulets became common in this time, showing that magic was a prominent idea; and the dead possessed of amulets could thus compel the powers in the future to help him, and be preserved from evil. The idea of the necessity of purification before being fitted for the heavenly life comes forward in this period, but how far it was added to in the Pyramid Period it is difficult to say. The bathing in the sacred

lake was probably an early idea, and this bath in Lethe was considered to purify the dead so as to fit him for entry into the heavenly kingdom of Ra.

The conquest of Egypt by the dynastic race doubtless introduced some fresh ideas as to the future life. In the theology it brought in the abstract gods: the Creator, Ptah, and the personification of Truth, Maat; the universal Father Min, and the Great Mother, Hat-hor. But in the burials there was only a gradual change in the direction—from facing west to facing east. The reason that no more striking changes are seen may be that there had been a gradual infiltration of the fresh race—as shown by bone measurements—and therefore there was no great difference when the political power passed over to the later comers. The new gods were not associated with any views of the future, and therefore it may be that the belief in immortality was not held strongly by the dynastic people, and the older beliefs were not much changed.

On reaching the Pyramid Age, there is the great mass of the texts engraved on the walls of the Pyramids, under the Vth and VIth dynasties. The kings of this age were descended from the high-priesthood of the Sun-god Ra, and their devotion to him is specially shown in their worship and monuments. It is therefore to be expected that for the future life they should look mainly to Ra; and this must not lead us to suppose that all Egypt thought and acted like the Son of Ra who ruled it. There is nothing to show that the people in general shared the royal worship. On the contrary, the deity most usually found on private monuments is the deity of the dynastic race, the Great Mother, Hathor; while that most popular goddess does not appear in the royal ritual, except rarely, as a secondary manifestation of the great Sun-god. We must not therefore accept the Pyramid Texts as the Egyptian beliefs of that age; they were a mixture of all the preceding strata of beliefs, as accepted by the royal family of Ra-worshippers.

Though the devotion of the kings was chiefly offered to Ra, yet Osiris was steadily becoming more and more regarded. The name of Osiris was being inserted, sometimes along with gods of the Ra cycle, sometimes substituted for them, sometimes in a charm or prayer which was brought entire from the Osiris-worship. The old popular faith was gaining ground from the Ra-worshippers, and the dominance of Osiris drew nearer.

This brings us to the view of the "double" or *ka*, the relation of which to human nature has been most difficult to define. There is little doubt that there existed several different beliefs on this subject, revealed to us by incompatible statements of various periods. It may be well to look at a modern African belief of a similar kind, which having been stated in detail, may perhaps be somewhat of a guide. In Nigeria "every ordinary individual, male or female, is attended by a guardian spirit, who is looked on as a protector, is invariably of the same household, and with whom, when alive, personal friendship has existed. Every freeman is attended by a guardian spirit, usually the spirit of his own immediate father." (Leonard, *The Lower Niger*, p. 190.)

In the Pyramid Texts we read that, on dying, a man "went to his *ka*"; the dead collectively are called those "who have gone to their *ka*s"; and the dead "goes to his *ka*, to the sky." Hereafter the dead associate with the *ka*, and might have dominion over other *ka*s. The *ka* is superior to the living person. It was appealed to for protection, "call upon thy *ka*, like Osiris, that he may protect thee from all anger of the dead." In the future world a person is under the dominion of his own *ka*. The *ka* helps by interceding with Ra for the dead, and introduces the dead to Ra. The *ka* brings food to the dead and eats with him. The dead person "lives

18. The figure of the KA of King Rameses III. On his head is the *ka*-name "the strong bull, the great one of kings." In his left hand is the emblem of the royal *ka*, a bust on a tall staff, with "*ka* of the king" upon it. In his right hand is a feather fan, with which he is fanning the king upon his throne. Here the *ka* is dissociated from the person, and is assisting him. Limestone temple scene, Koptos. (Univ. Coll., London.)

with his *ka*, who expels the evil that is before him and removes the evil that is behind him." The priest was the servant of the *ka*, who would pass on the offerings made "for the *ka*" to the dead, whom he supplied and protected. Such are the examples of the early belief about the *ka* given by Breasted, who concludes that the *ka* "was a kind of superior genius intended to guide the fortunes of the individual" (p. 52). Now this puzzling localisation by which the *ka* was the companion of the living, and yet the dead went to their *ka*s, is explained by the Nigerian belief. There, the guardian spirit attends on the living, and yet is the spirit of one who is already among the dead. If the Egyptian *ka* was, like this, an ancestral manifestation, it would thus guide the living, yet in the future life the dead would go to the *ka*. It seems, then, best to regard the *ka* as an ancestral emanation which was associated with each man from birth, and by its superiority would guide and help him through this life and the next.

It is not known how early the *ka* was thought of as a Double of the material nature; in the XVIIIth dynasty the *ka* is represented as born like an infant, and growing with the man. This may have been the original notion: the portion of ancestral spirit developing with the individual in whom it dwelt.

On the tombstones of the Ist dynasty there is often placed the *aăkhu*-bird, the "brilliant one," or glorified soul, with the arms (the emblem of the *ka*) embracing it from above. This would accord with references to the *ka* in the Pyramid Texts.

19. The *aăkhu* bird, emblem of the spirit of the deceased, embraced by the arms of the heavenly *ka*. (Steles from Royal Tombs.)

In the Vth dynasty there are other references to the *ka* in the Proverbs of Ptah-hotep. Various acts are hateful to the *ka*, such as staring at a man, losing opportunities of rightful enjoyment, or repeating expressions of passion. The son who resembles his father is said to be begotten by the *ka*. It is the *ka* that impels to generosity and kindness. Rather later, a king is said to be "loved by his *ka*." These statements may well be compatible with the guardianship by the ancestral emanation, or spirit of the family.

The tomb sculptures of the Pyramid Age show how completely the dead was supposed to enjoy all the possessions of this life in the future world. Every farm was to bring its produce; all the servants and animals of the household are shown; the games, the dances, the hunting and the fishing were all to be enjoyed in the future, and were portrayed on the walls of the tomb chapel for the spirit to take part in them.

The sense of divine favour in the future is stated: "I desired that it might be well with me in the Great God's presence." A definite judging of evil in the future was expected, as if any one damaged a tomb "judgment shall be had with them for it by the Great God, the Lord of Judgment, in the place where judgment is had." The righteous dead had the power of intercession with the Great God to favour others in the judgment: "I will intercede for their sakes in the Nether World."

In order to reach the boat in which the Sun-god sailed over the heavenly ocean, the dead was provided with a boat, so as to sail up to the Sun-boat and be taken in to the company of the gods. A model boat, or the sculptured or painted figure of one, was an essential part of the funeral furniture of the Ra-worshipper.

In one instance, there was a boat rigged for going up the stream, and another for going down the stream.

20. Boat for the dead to follow the Sun-god. The deceased is seated in a shrine; before him is a table with a vase and a servant offering. (Tomb of Hori, phot. Insinger.)

After this age of great faith and great works, a wave of pessimism and agnosticism spread in the decline of that civilisation. They sang of the future life:

"None cometh from thence
That he may say how they fare,
That he may tell of their fortunes,
That he may content our heart,
Until we also depart,
To the place whither they have gone.

. . . . . .

Lo! no man taketh his goods with him,
Yea, none returneth again that is gone thither."—(*Br.* 183.)

At the same time the disorder and misery of life was such that even death was welcomed:

"Death is before me to-day,
Like the recovery of a sick man,
Like going forth into a garden after sickness.

Death is before me to-day,
Like the odour of lotus-flowers,
Like sitting on the shore of intoxication.

Death is before me to-day,
As a man longs to see his house
When he has spent years in captivity."—(*Br.* 195.)

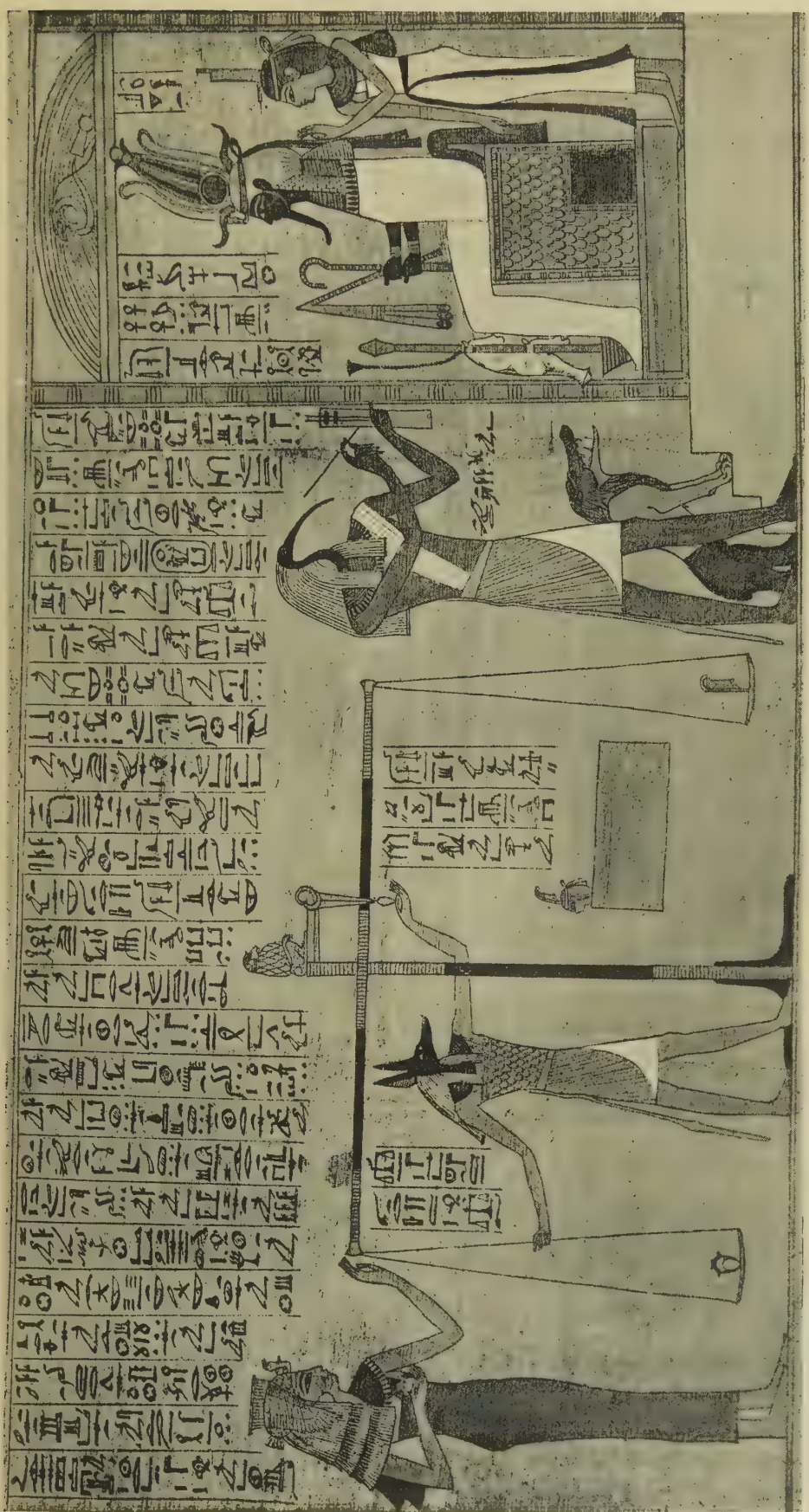
These and many other lamentations over the corruption of the world, show the dissatisfaction which led men to reflect on the need of a future judgment to recompense the evils which they saw. It was amid such distresses that the belief in the Judgment Seat of Osiris grew into definite form. In that Judgment, Anubis,

the guardian of the dead, brought the deceased into the Judgment Hall. There his heart was weighed in the balance against Truth; and, if judged correct, he was then led by Horus into the presence of Osiris; if faulty, there stood Amam, the devouring crocodile-hippopotamus to consume him. It should be observed here that Osiris does not judge the dead; the judgment is entirely abstract, mechanical, independent of judicial choice. The fact of a man being righteous or unrighteous is not a subject of consideration, but is a definite fact not admitting of doubt. When once ascertained by agents of Osiris, then the dead is either admitted to the kingdom of Osiris or annihilated. There is no parallel here to the Christian view of the Last Judgment.

21. Occupations in the kingdom of Osiris. (NAVILLE, *Papyrus de Kamara.*)

Top.—Pulling up flax for making clothing.
Queen KA-MA-RA on her throne sailing in a ship at will.
The ploughman tilling the ground.

Base.—The reaper cutting corn, with a sack to carry the ears slung from his head.



22. Scene of the weighing of the heart. (NAVILLE, *Papyrus de Kamara.*)

The queen bringing her heart to be weighed.

Anubis weighing the heart against the feather of Truth.

Thoth recording the justification of the heart.

The Amam devourer below.

Osiris and Isis prepared to receive the justified queen in the future world.

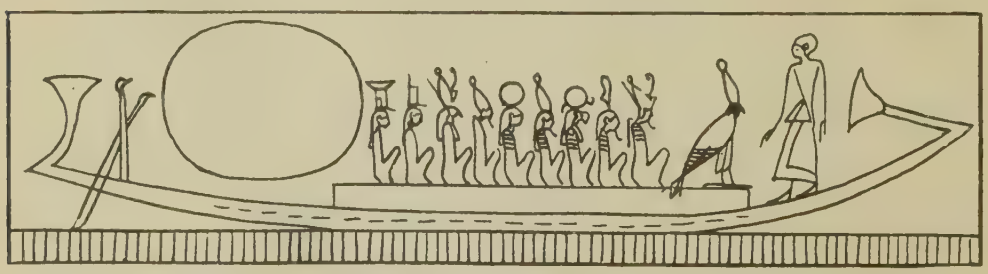
The nature of the future life in the Kingdom of Osiris is continually depicted in the Book of the Dead. Earlier than that is a song about those who are yonder in heaven with Ra:

"He who is yonder
Shall seize the wicked as a living god,
Inflicting punishment of evil on the doer of it.
He who is yonder
Shall stand in the celestial barque
Causing the best offerings there to be given to the temples.
He who is yonder
Shall be a wise man who has not been repelled
Praying to Ra when he speaks."—(*Br.* 197.)

In comparison with this the Osirian heaven was very homely. The dead was promised that he should eat at his desire, remember what he had forgotten, have sandals for his feet, and repel the burglar and the early thief. He should have a house and pool and orchard, and all his household and children, brothers, father, mother, wives, concubines, slaves, and all his establishment, . . . "everything belonging to a man." To this end, 400 figures of serfs to cultivate the land were supplied in the tomb, with elaborate instructions inscribed on each as to their duties.

In all this there is no confession of wrong-doing, no plea for mercy. The Egyptian boasts that he had done nothing wrong, he asserts his faultlessness from every sin he can recount, in order to prove that he is worthy. This purgation by assertion is a thoroughly Egyptian trait in modern times. He thus addresses the assembled gods:—"Behold, I come to you without sin, without evil, without wrong, I live on righteousness, I feed on the righteousness of my heart, I have done that which men say, and that wherewith the gods are content."

So much for the official and priestly view of the future. But there lingered older beliefs in the popular heart. The food and drink was still placed in the grave, as it is even to this day. At the earlier part of the Osirian revival the dread of the dead coming out of the graves and haunting the villages, led to model houses being placed by the side of the graves for the soul to find shelter in. These pottery models of the dwellinghouse show the common buildings of the peasantry, with their lower and upper floors, their fenced roofs, air-shafts, furniture, food, and the domestic drudge who ground the corn. The soul, therefore, was thought of as wandering about from the grave, and needing shelter and a home.



23. The soul entering the boat of the sun, in which the nine gods are seated. (LEPS., *Todt.*, LV.)

The comforting doctrine of accompanying the gods in the Boat of Ra, or living a social life of happiness in the Kingdom of Osiris, was overlaid by a crowd of invented horrors. Even the god Ra had to pass through a series of hours of darkness, regarded as dismal caverns, where evil spirits tried to waylay and overcome

the dead. Long spells and directions were therefore needed to enable such dangers to be repelled. The later religious guide-books to the Underworld consist mainly of details of such future perils, and the means of resisting them. Even the walls of the tomb, from the XVIIIth to the XXVIth dynasty, 1500–500 B.C., were sculptured with scenes, and directions for the terrible future, to the exclusion of all the old subjects of domestic life. It was no longer the enjoyment of a repetition of the

24. The singer of Amen, DIRPU, being led by the beneficent Bastet past the horrors of the infernal animals, and a bitch-headed spirit armed with knives and serpents. (Phot. Brugsch.)

present life that was presented, but the terrors of perils by demons. The so-called "Book of the Dead" is a conglomeration of all the charms which were deemed to be most needful. No two copies of it are alike; the scribe merely put together a more or less full series of those formulae which attracted him. Most of it is undoubtedly very early, containing allusions to prehistoric practices, but it is so overlaid by successive editings, variants, targums, and corruptions, that we cannot hope for a critical edition disentangling the various periods represented.

Such was the outlook on the future life, a complex of many incompatible beliefs, among which each person chose and combined what suited him, with a strong influence of fashion and priestly bias for one view or another at different times. Yet below all these beliefs lay the whole-hearted confidence in personal immortality which seems to have been so firmly held in almost all ages of Egyptian history.

All that we have noticed continued gradually to fossilise and become less personally real, until a new wave of influence spread over the world. The fresh movement was that of individualism, personal responsibility, and personal religion.

No longer was religion principally concerned with a public worship, it became a more personal devotion. With this went an ethical growth and a new value attached to the individual life. The earliest sign of this movement is in Hesiod, about 850 B.C., who was contemptuously called the poet of helots, from his honouring agriculture, which was held to be degrading to freemen. The preaching of simplicity in life, with pure and practical ethics, was the dawn of a new age. A century later, about 727 B.C., Piankhy the Ethiopian reconquered Egypt. He protested to his enemies: "If a moment passes without submitting to me, behold ye are reckoned as conquered, and that is painful to the king. Behold ye, there are two ways before you, choose ye as ye will; open to me, and ye live; close, and ye die. His Majesty loveth that Memphis be safe and sound, and that even the children weep not." When he entered a city after a siege he went personally to see about the horses, and when he found that they had been neglected and starved he swore, "By my life, so may Ra love me, I loathe the men who have starved my horses more than any abomination that the rebel has done altogether."

Isaiah shows the same growth of ethical feeling, and disregard of mere collective formalism. "Bring no more vain oblations, incense is an abomination unto me . . . it is iniquity, even the solemn meeting . . . . . Wash you, make you clean, put away the evil of your doings" (i, 13–16). Rather later, Ezekiel, in 594 B.C., proclaims entirely individual responsibility; he repudiates the sins of the fathers falling on the children; "the soul that sinneth, it shall die. But if a man be just . . . . he shall surely live" (xviii, 4–9). A century later Buddha preached his great system of individual responsibility and wide love for man resulting in ethical conduct. Even as far as China the same individualism rose up, shown in 340 B.C., when common field cultivation was abandoned, and private ownership began.

In Egypt, this new spirit in the world was largely influenced by the flow of Jewish, Persian, and Indian ideas, from the sixth century B.C. onward. The main documents that we have for this age are the Hermetic writings, which are dated by the political allusions in them, and were composed from 500 to 200 B.C. The earliest of these works, *The Virgin of the Kosmos*, probably about 510 B.C., describes the formation of souls from the Breath of God and Conscious Fire, blended with unconscious matter. These souls rebelled, and God then embodied them as men. The imprisoned souls lament, and are answered by God that if they are sinless they shall dwell in the fields of heaven; that if blameable then they shall be on earth; if they improve they shall regain Heaven; but if they sin worse they shall become animals. This metempsychosis is probably shown in some Egyptian judgment scenes, where a pig is being driven away as the vehicle of a condemned soul. The more righteous souls shall be kings, philosophers, founders of states, law-givers, etc.; the lower souls shall be eagles, lions, dragons, and dolphins. The gods are stated to dwell in the Aether with the sun and stars; in the air are souls and the moon; on earth are men and living things.

A slightly later work, *The Discourse of Isis to Horus*, states that the souls of men and animals are all alike; metempsychosis between men and animals is assumed; the soul is individual, the work of God's hands and mind, its congress with the body is a concord wrought by God's necessity; at death it returns to its proper region, between the moon and the earth.

Rather later, in *The Definitions of Asklepios*, the soul's rational part—*Logos*—is above the rule of daimons; and if a ray of God shines through the sun into it, the daimons do not act upon it. Here, then, the *Logos* is something added to the soul and a further change may take place in the *Logos*.

By about 340 B.C. we find in *The Perfect Discourse* a more complex psychology. Animals have bodies and souls, and are filled with spirit. In man sense and reason are added, as a fifth part. In part man is deathless, in part subject to death. When the soul leaves the body then the judgment and the weighing of merit pass into its highest daimon's power; apparently thus the judgment was transferred to the *ka*. If the soul is pious it is allowed to rest; if soiled with evil, it is driven out into the depths, to vortices of Air, Fire, and Water, between heaven and earth.

In the discourse called *The Font*, probably about 300 B.C., the nature of man is stated as excelling by reason of the *Logos*. *Logos* indeed among all men God has distributed. They who do not understand possess *Logos* only, and not mind. Thus *Logos* was animal reason, and Mind was a spiritual gift, which was acquired by spiritual immersion in the Font of Mind.

Rather later—but yet long before the Christian era—is *The Secret Discourse*, in which re-birth is stated to confer immortality; the natural body must be dissolved: the spiritual birth can never die. Here we cannot avoid seeing the Indian influence in the simile of conversion as re-birth. In the latest of this series, *The Shepherd of Men*, it is said that senseless men pass into darkness, their minds naturally return to primitive chaos. In the good, the Shepherd Mind is present, giving Gnosis and Religion, and enabling them to turn away from the world before death, and therefore never to die like others in parting from the world. The end of those who have gained Gnosis is to be one with God.

The Egyptian, therefore, had, by the mixture of Eastern philosophy, gained a stand-point approaching that of Christian times; indeed, it was the religious terms and conceptions of the Alexandrian School which formed the soil in which Christianity was planted.

25. The *ba*, or soul, holding the *onkh*, returning to the mummy to impart life to it. (Leps., *Todt.*, XXXIII.)

We may sum up the pre-Christian idea of man as being an animal soul, in which Divine reason was implanted as a human distinction. That soul might yet go astray, and a special divine influence, symbolised by a ray of light, or immersion in the Font of Mind, or re-birth, was needed to save it from the evil influence of daimons. The evil suffered distress in the future, probably leading up to annihilation; the good were given a life of blessed rest. This is not far in advance of the Egyptian position some three or four thousand years earlier. It is the old Egyptian framework filled in with detail from Indian and other sources. Whether we look to the earlier or to the later time we see how far more modern were the Egyptian beliefs, than were the contemporary Hebrew ideas about a future life. We are the heirs of Egypt rather than of Hebraism in our Christian ideas.

Prof. W. M. Flinders Petrie.

Notes for Advanced Students.

The stages of prehistoric civilisation can be linked with the stages of religious beliefs, which thus become sorted and dated.

The texts naming reed floats must precede the common use of boats.

The Pyramid Texts are the formulae of the royal Ra-worshippers, and did not necessarily represent the general beliefs.

The *ka* is explained by African beliefs as an ancestral emanation.

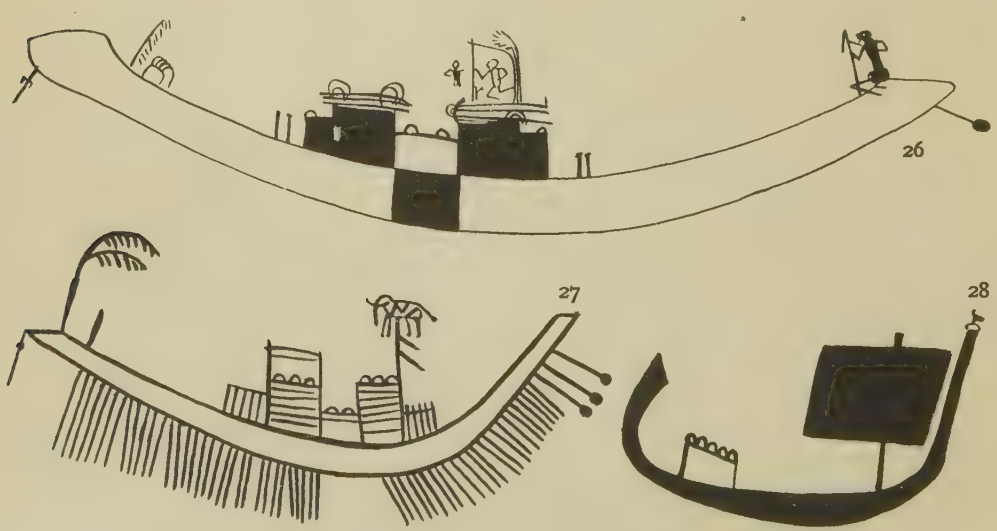
THE MYSTERIOUS ZÊT.

In the version of Manetho's chronology that has been transmitted through Africanus, there is, at the close of the XXIIIrd dynasty, an entry that has raised a crop of conjectures. In place of any recognisable name of a king there is Ζὴτ ἔτη λα′,—Zêt, 31 years.

This Zêt is entirely unknown on the monuments, there is not a chip of stone or a flake of papyrus, a scarab or an amulet, to show his existence. He has been thought to be the Sethon, priest of Ptah named by Herodotos (II, 141), who places him after Shabaka, and therefore too late;—or possibly connected with the blind king Anysis;—or a contemporary of Bakneranf, a vague enough conjecture;—or to be the Saite Tnephachthos or Tafnekht;—or to be a corruption of the word "Saite";—or to be King Kashta, the Ethiopian. I confess to venturing the suggestion that this was a date from some earlier starting point, giving a summation of years. With some writers, of course, Manetho is the whipping-boy, who must always be flogged whenever anything is not understood.

We must always remember that we need to consider Manetho as a Greek manuscript, with the usual character and methods of any other papyrus of the Ptolemaic time. On reaching the period of disruption, when a dozen petty princes were dividing the land, it was hard to say who was to be mentioned as continuing the XXIIIrd dynasty. For thirty-one years no single ruler seemed to be predominant, further search was needed to settle who should be entered as the king of Egypt. So the honest "beloved of Thoth" put down Ζητεῖται "A question (remains) about thirty-one years," or "Query"; or perhaps some other derivative of Ζητέω, "I search after." A natural MS. abbreviation of this note of enquiry, like our "Qu.," was Ζητ. Hence the mysterious entry. It proves that we must include this thirty-one years in the history, although no one king can be assigned; and in the summary of the *Recueil* in this number will be seen how it falls into its necessary place in the dynastic history.

W. M. F. P.



26. Ship with cabins and steersman. (*Hierakonpolis*, LXXVI, LXXVII.)
27. Ship with three steering oars. (*Naqada*, LXVII, 14.) 28. Ship with sail. (Capart, *Prim. Art.*, fig. 83.)

FOR RECONSIDERATION.

Onkh-em-măot.

We purpose under this heading to take up in each number some of the various matters which need clearing up, by reference to facts which are little known, or disregarded.

Glass-Blowing.

In the days before the history of Egyptian manufactures was known, it was a very natural supposition on the part of Gardner Wilkinson that certain scenes represented men blowing glass bulbs on the end of rods (*Manners and Customs*, ed. 1878, Fig. 380). The upper one of the figures which he gives was evidently copied from the tomb of Baqta, No. 15, at Beni Hasan (*Beni Hasan*, II, VII), where it is by the side of the jewellers weighing with a balance. Unfortunately, this description of glass-blowing continues to be frequently brought up in evidence for the use of glass. Now, though thousands of pieces of glass vessels are known, especially about 1500–1400 B.C., yet there is not a single piece of blown glass dateable before Roman times. All of the earlier glass working was in a stiff pasty condition, and not fluid enough to be blown. The glass vases were made by building up on a core, which was afterwards scraped out. It is incredible that glass was blown when all the mass of specimens which we have, show that a different process at a lower temperature was universally used. The real meaning of these scenes is that the men are blowing up the small charcoal fires used by the jewellers; and, as the reed blowpipes would soon be burnt at the end, a lump of mud was put on as a nozzle to the pipe. Where two men are shown (*Manners and Customs*, Fig. 380) blowing into what seems like a vase upside down, it is certain that they could not be blowing a glass vase of that form ; if blown it would be spherical, and such a form could only be made by rolling the blown bubble. What they are really doing is blowing up a small charcoal furnace inside a pot, probably to melt a crucible full of metal in it.

Paintings of Prehistoric Towns.

The frequent figures of structures upon the later prehistoric pottery were recognised at first as being clearly intended for ships, with a large number of oars, two cabins, and an ensign.

Another interpretation has arisen, supposing these figures to be intended for fortified towns. Even on any ordinary specimen, the absence of any base line below the oars which could be taken for the outline of a town mound, would be difficult to reconcile with the land interpretation.

When, however, we look at the critical examples, it will be seen that it is impossible to interpret them as views of towns :—

(1) The two ends are always different; for a town the two sides should be alike, in a boat the stem and stern differ.

(2) In the Hierakonpolis paintings there are no oars, except the big steering oar which is held by the steersman at the stern. A paddle such as this cannot possibly be figured as projecting from a town (see Fig. 26). On other examples there are three steering oars (Fig. 27).

(3) At the stem dangles the tying-up rope (Figs. 26, 27), still used universally in Egypt now. This cannot belong to a town.

(4) The form of one of the Hierakonpolis boats is exactly that of another painting (Fig. 28) on a pot, where a big square-sail marks it inevitably as a boat.

(5) A fresh specimen is here published, which I bought in Egypt lately (Fig. 29). On this is a structure from which four men are poling; with the shoulder against the pole end, and the weight of the body resting upon it, exactly as Nile boatmen pole a boat along at present To suppose them fighting from a town in that attitude would be absurd; the action is precisely that of boatmen. This is a unique example of a great state boat with a row of passenger cabins on it; these are raised to a higher level, so as to be clear of the men working the boat. This specimen is now at University College, London.

29. Prehistoric vase painted with a scene of a large boat worked along by sailors poling. Above them is a row of cabins with figures of women in them. (University College, London.)

In the ordinary figures of boats, it may be explained that they have two cabins, sometimes with small cabins or animal pens attached. On these cabins are bent withies standing up, to hold in poles, oars, and other lumber, put out of the way on the tops of the cabins. Sometimes, as in Fig. 26, a shelter was put on the top of a cabin, with a branch of a tree over it to shade it from the heat. In the bows there is a seat for the look-out man, with a branch put over it to shade him from the glare. Whether these branches were young trees in pots, or cut branches, is not certain. If cut branches—as they seem to be—that would accord with the much greater frequency of timber in Egypt formerly, as shown by the common use of great quantities of wood in the Royal Tombs and elsewhere.

W. M. F. P.

PERIODICALS.

Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXV, 1913.

Le X^e nome de la Haute-Egypte.—HENRI GAUTHIER. A long and valuable paper collecting and discussing all the geographical material about the nome between Assiut and Ekhmim. The ceaseless destruction of the ancient sites for *sebakh* brought to light a large quantity of Greek and Coptic papyri about a dozen years ago, at a modern town known as Kum Ashqouh (or Ischgaou); Mr. Quibell inspected the place for the Government, and obtained also carved woodwork and other early Coptic remains. These discoveries fairly settled the main question of the locality of Aphroditopolis, as that city is usually named, in the documents found on the site.

The old nome standard is the serpent, with an ostrich plume upon its back , the distinctive mark of a sacred animal (see *Royal Tombs*, I, xxix, xxx; *Tarkhan*, I, ii). This standard is vocalized, both in the Pyramid Texts and the XIXth dynasty, as *Uăzet*, showing it to be the serpent-emblem of the great goddess of Buto. Variants in late times show two serpents, perhaps due to a confusion with the two gods named for the eastern side of the nome: see below. The only period of historical importance for this place was when it formed the northern frontier of the Theban Kingdom of the XIth dynasty, under Uăh-onkh Antef. From the VIth dynasty to Roman times forty-eight instances of the name are cited for this sacred name of the city.

The profane name Thebti, or the two sandals, is derived by tradition from the sandals made by Horus from the skin of Set, after his defeat near this place. Of this name ten instances are cited. The old identification of it with Idfu, started by D'Anville, was generally accepted until the papyri showed the site to be at Ashqouh.

The nome was divided into two parts, western and eastern. The latter was known as Neterui , because of the triumph of Horus over Set in this district, near Qau el-Kebyr. On the west bank was a place referring again to this traditional history, Ha-sehetept, "the place of causing peace"; and the high-priest was called *Sehetep neterui*, "pacifier of the two gods." It seems probable that this place is the Greek Hisopis, which by the itinerary must have been near El-Maraghat. On the eastern side the main place was Antaeopolis, known as "the high-place," Duqa, Qăy, or Tăqăyt. A dozen minor places are also named in the nome.

The divinities were Hathor, the Aphrodite of the Greek city name, Horus with Set, Măa-hes son of Bastet, Hor-se-ast, Mut, Osiris and Amen.

The western side of the nome was of no importance in Roman times, though Antaeopolis retained some attention on the eastern bank. The papyri are mostly of the Coptic and early Arabic period. The capital was the Coptic Jekôw, Arabic

Ashqouh. Antaeopolis became Tkôou, now Qau-kharab, or el-Kebyr. Apollonopolis is in the Coptic lists Sbeht, the modern Kum Asfeht. A very full series of all the mediaeval sources for the place-names is given, but does not materially add to the main conclusions.

Das Kolophon des liturgischen Papyrus.—W. SPIEGELBERG. This papyrus is of much palaeographic importance by reason of its exact date, March, 311 B.C. It begins with a long list of prophets, in office at Thebes and Diospolis Parva, which fills more than half of it; the remainder is not of importance.

Eine Schenkungsurkunde aus der zeit Scheschonks III.—W. SPIEGELBERG. Two donation steles of Sheshenq III are here published, one in the Musée Guimet in type, and one in Berlin, both in type and photograph. They are dated in the 18th and 28th years respectively. The Guimet stele names a prince and general Tekilat, who is not otherwise known, and his mother Zed-bast-aus-onkh, a concubine. The main interest of each stele is in their naming a "royal son of Rameses," without any names. There are eight of these descendants known now, and their position is enigmatical. Why the XXIInd dynasty kings should have tolerated and put forward men who might claim to be political rivals is still unexplained. It is possible that the clan of royal descent formed a fixed aristocracy of the period, sufficiently united and powerful to command respect, but so numerous that their jealousies rendered them powerless politically. The two hundred children which may be ascribed to Rameses II would, in a stationary number of population, have permeated the ancestry of 100,000 or 200,000 by the time of the XXIInd dynasty; so, thus, the whole aristocracy of Egypt were probably entitled "royal sons of Rameses."

Note sur des pierres antiques du Caire.—G. DARESSY. The useful work of registering fixed monuments is here continued. The pillage of stone from the temples of Memphis, Heliopolis, and other places, for the building of Cairo, has scattered pieces of all ages through the public and private structures of Arab date. Here are described:—

1. Block of granite with part of a list of temple statues, naming material and height. Saite.
2. Block of granite, part of a great table of offerings of Rameses II.
3. Block of granite of Aahmes-să-neit.
4. Piece of six-lobed lotus column of sandstone, of Amenhetep III, surcharged by Merneptah and Setnekht.
5. (Photograph.) Marble shrine of Isis of Greek period. The goddess is on a throne of winged lions, a priest offering before her, another standing behind holding a ram-headed wand. The priest and altar have a likeness to the subject on Persian gems, and the architectural style might well be late Ptolemaic. M. Daressy would however place it in the second or third century of our era.

Monuments Egyptiens du Musée Calvet à Avignon.—A. MORET. This Catalogue is continued from the previous year.

The monuments are as follows:—

XXII. Stele with seated figure of Mentu holding falchion and shield; dedicated by Ptahmes and his family: XIXth dynasty.

XXIII. Stele dedicated to the goose of Amen.

XXIV. Stele dedicated to Osiris, by a woman Petes.

XXV. Stele to Osiris by an hereditary prince and vizier.

XXVI. Stele to Osiris by Peduast.

XXVII. Stele to Hor-em-aăkhuti, by Hor-khred-meh.

XXVIII. Stele to Hor-em-aăkhuti, by Zed-khonsu-au-onkh.

XXIX. Stele to Osiris by a singer of Amen.

XXX. Stele of Horus on the crocodiles, with long inscription, in which occur weird names such as are found in the late magical documents—Shardshek, Berker, Arourouari.

XXXI. Fragment of basalt statue, probably XIIth dynasty.

XXXII. A clay tablet, 6 × 3·3 inches, with four columns of finely drawn hieroglyphs, the columns reading retrograde, like the great inscription of Rekhmara. The inscription is the CLIB Chapter of the Book of the Dead, for the Vizier User, son of the Vizier Odytu. The parallel texts are given, comparing this with five other versions, which are all later. User lived early in the reign of Thothmes III, and was not only son of Odytu, but uncle of the Vizier Rekhmara. His complete name was Amenuser. References are given to other publications.

XXXIII. Base of a statue of Amenhetep III, naming his *sed*-feast.

XXXIV. Piece of seated figure of Nekht, the chief overseer of the prophets.

XXXV. Statue of Huy.

XXXVI. Statue of Hora, son of Bakamenra.

XXXVII. Statue, name lost.

XXXIX. Statue of Shem (?), of Koptos.

XL. Piece of granite obelisk of Rameses II.

XLI. Piece of statue of Seker.

XLII. Votive pyramid of a scribe of the temple of Anher, Nesmin son of Mertheru, about XXIIIrd dynasty; with a long inscription giving five generations.

XLIII. Table of offerings of Hor-se-ast, prophet of Anher.

XLIV, XLV. Small tables of offerings uninscribed.

Notes de Grammaire.—P. LACAU. A continuation of comments on grammatical points drawn from the writer's wide experience and reading, but seldom touching matters of general interest. On the origin of number signs it may be noted that all unit signs were originally written as horizontal strokes, not vertical; this has led to some false readings when the custom was forgotten. The names of the various signs for each place of figures from 10 to 10,000,000 are all shown to be indicated by phonetic signs homophonous with the name of the number. In the higher values the connection is plain; for the cord the name *set* is assimilated with *shet*, 100; and for the cattle tether the name *mezt* is taken from *mez*, 10.

There are also some interesting notes (p. 223) on the nature and use of various signs, especially with reference to Dr. Erman's list. The so-called bier in the late writing of the name of Osiris, is really a chair, merely a variant form of the throne *as*. The whole of these eight pages should be carefully noted in any study of the forms and variant values of signs, being full of references and examples.

Zwei demotische Urkunden aus Gebelên.—W. SPIEGELBERG. These two contracts are now at Strassburg. One has a Greek tax-receipt, and is dated in the 33rd year of Ptolemy Lathyrus. A great part of it is occupied with an immense protocol of the Ptolemaic priesthoods; the business is the sale of a small plot of land in the south of Pathyris, of about 3,500 square feet, but no price is

named. The second papyrus is dated in 103–2 B.C. under Ptolemy XI, Alexander, and Berenice III; it is a contract of sale of a mare, but, again, no price is named.

Der Isistempel von Behbêt (2te Teil).—C. C. EDGAR and GÜNTHER ROEDER. The immense tumbled pile of blocks of red granite which marks the site of the great Iseum, is the result of mining out all the limestone for burning. No attempt has been made to copy and publish all the sculptures, but the above authors have made a hand list of the blocks and copied the longer inscriptions. The list is continued in the present paper. It is necessarily a work more of piety than profit. The only satisfactory thing would be to draw all the blocks, with note of position and probable connections, and then refit the scenes. This might result in a general view of the whole system of the sculptures.

La Fabrication du vin dans les tombeaux.—PIERRE MONTET. In the Old Kingdom only dark grapes are represented, and the wine must have been red. At Bersheh in the XIIth dynasty white grapes are seen, and the juice is light, such as would make white wine. Most of the paper is occupied with the examples of extraction of the juice from the crushed grapes by wringing the mass in a twisted cloth. The force was applied by twisting the cloth with two poles, each held by two men; to prevent it drawing together into a knot, a fifth man forced the poles apart with his hands and feet. The fixed frame to hold the cloth, and twist it from one end only, first appears in the XIIth dynasty, and was but gradually taken into use for wine making. The writer does not notice a large drawing of a fixed frame in the temple of Sety at Abydos (CAULFEILD, *Temple of the Kings*, XX, 4).

Inscriptions historiques Mendésiennes.—G. DARESSY. The Roman buildings of Egypt are incessantly being destroyed for the sake of re-using the bricks; indeed, the Department of Antiquities sells the right of destroying Roman buildings, without any examination or knowledge of what they may be. In the course of this destruction of antiquities, a stray block of re-used sandstone was found at Mendes, bearing two inscriptions of the XXIIIrd dynasty. These relate to important persons hitherto unknown, as indeed the history of this region has scarcely been touched. First, there is a general Hor-nekht; his son was the governor Nesi-ba-neb-daddu, who married the priestess of the Ram of Mendes Khau-sen-ast, and had a son, the governor Hor-nekht. M. Daressy would see in one of these Hor-nekhts the personage named in the beginning of the Story of the Breast-plate; but the period seems to be different. The Story of the Breast-plate is dated by the names of three rulers being the same as those of Esarhaddon's vassals, which ties it to shortly before 670 B.C. The present inscription names both the first and second Hor-nekht as "great chief of the Ma(shauasha)," a title which was usual in the XXIInd dynasty and lasted down to the time of Piankhy, 725 B.C. This title suggests that the Hor-nekht here is of an earlier generation than the time of Esarhaddon. A very curious phrase is that the god Ba-neb-daddu "appoints to his Tanites (*Khent-abtiu*) that they should acknowledge Hor-nekht as master of the temple." This shews that Tanis was at this time subject to Mendes.

The second inscription is dated in the 11th year of a king whose cartouches have never been filled in. This strange omission cannot be accounted for by political uncertainty, or the number of the year would not have been inserted, nor would it have shown so long a reign. We can only suppose that the precise form

of the royal titles was not known to the scribe. This is a record of the joyous entry of Hor-nekht into Mendes. They seem to have had a right of popular acceptance of a ruler, as it is said that they "approved his father when he took possession," and they rejoiced when the great heir of his house was in his rightful place. Evidently there had been a civil war, as Hor-nekht is said to have beaten his competitor.

Notes sur les XXII^e, XXIII^e et XXIV^e dynasties.—G. DARESSY. This paper shows how little we know for certain about the period. There are more than thirty documents quoted, and from these is put together a tentative table of two continuous and independent lines of kings of the Delta and kings of the Thebaid. Stress is laid on contiguous or overlapping reigns having the titles "Divine prince of Thebes" and "Divine prince of Heliopolis," as implying separate rule. As, however, such titles do not imply only a local rule in the XVIIIth–XXth dynasty, they need not do so here. The two essential matters are (1) the genealogy of Uasarkon I, father of High-Priest Sheshenq, father of High-Priest Horsăast, the latter occurring in the 6th year of Sheshenq III, *se-bast;* (2) that the 1st year of Pedubast was in the 7th year of Sheshenq III. These facts must bring Pedubast back to about a century after the beginning of the XXIInd dynasty, and thus force the XXIIIrd dynasty to overlap the end of the family of the XXIInd dynasty.

Before accepting the entire change of there being two rival lines throughout, it is well to see how far the new facts compel alterations in the simple list already recognised. Taking that in the *Student's History of Egypt*, there are no fresh facts incompatible with the outlines of the XXIInd dynasty there stated. The change required is in the rise of the XXIIIrd dynasty. The High-Priest Horsăast, grandson of Uasarkon I, assumed the royal title in the Thebaid (Koptos), and is probably the father of Pedubast, who began his reign in the 7th year of Sheshenq III. Perhaps the independence of Horsăast started with Sheshenq III, as his father Takelat II, *se-ast*, certainly ruled the Thebaid. Thus the XXIInd dynasty ruled alone for at least 115 years, or rather more. This points to the 120 years' total of Africanus being the true length of the dynasty. Then the last three kings Sheshenq III, Pimay, and Sheshenq IV were overlapped by the XXIIIrd dynasty, and were accordingly not counted in the chronology of Manetho.

In the XXIIIrd dynasty there must be added a Takelath, for at least fifteen years, between Pedubast and Uasarkon III. The main question now is the filling of the time. Sheshenq I began his reign about 952, or perhaps later, if his Judaean campaign was long before the sculpture of it at Karnak. Possibly it might be ten years earlier, and if so the reign began 942. Shabaka began his reign 715, so the XXIInd–XXIVth dynasty should cover 237 or, at least, about 227 years. If there be 120 years in the XXIInd, and six years in the XXIVth, the XXIIIrd dynasty must have been 111 years, or rather less. We have on record: Horsăast 6 years, Pedubast 40 years, Takelat 15 or more years, Uasarkon III 8 years, Psammus 10 years, and the entry of Zêt 31 years, making up 110 years. Thus it is essential to retain the period of Zêt to fill up the total period. As to the meaning of this entry some account will be seen in another article of this Journal. The probable results, following the older view and Africanus, stand as follows, stating the length of reign up to the beginning of a co-regency:—

XXIInd dynasty.

Sheshenq I	B.C. 952–930	120 years Africanus,
Uasarkon I	930–900	
Takelat I	900–877	
Uasarkon II *se-bast* ...	877–854	
Sheshenq II	854–854	
Takelat II *se-ast* ...	854–832	

		XXIIIrd dynasty.	
Sheshenq III	832–781	Horsăast...	832–826
		Pedubast...	826–786
Pamay	781–781	Takelat III *heq uast* ...	786–770
		Uasarkon III	770–762
Sheshenq IV	781–744	Psammus	762–752
		Zêt	752–721
		XXIVth dynasty.	
		Bakennauf	721–715
		XXVth dynasty.	
		Shabaka	715–

Thus the XXIInd dynasty was truly reckoned at 120 years by Africanus, and the XXIIIrd dynasty was 89 years as in Africanus, plus 6 years of Horsăast and 16 years of Takelat III, omitted by Africanus.

On the other hand, abandoning the stated reckoning, the loose fragments are adjusted by M. Daressy as follows, going back from Shabaka at 715 B.C.:—

Delta.		Thebaid.	
Sheshenq I	941–920		
Uasarkon I	920–880	Takelat I	905–880
Uasarkon II	880–857	Horsăast...	–851
Sheshenq II	857–837	Pedubast...	851–826
Anput	837–832	Sheshenq IV	826–821
Sheshenq III	832–780	Takelat II	821–791
Pimay	780–768	Uasarkon III	791–760
Sheshenq V	768–729	Uasarkon IV }	760–
Tafnekht...	–721	Takelat III }	
Bakenranf	721–715	Piankhy	746–

Zwei Kaufverträge aus der Zeit des Königs Harmachis.—W. Spiegelberg. These two demotic documents are of historic interest as they are dated in the 4th year of King Har-em-aăkhuti, an Ethiopian king of Thebes. The same notary who drew up these documents, Pedyamenapt son of Pedy-amen-nesut-taui, is also known to have drawn up documents in the 12th and 15th years of Ptolemy IV, Philopator, 210–207 B.C. We therefore know that this Ethiopian king probably held Thebes within about twenty-five years of that time, say somewhere between about 235 and 185 B.C. Coins of Ptolemy III and IV were found with these documents, quite confirming the general period. Dr. Spiegelberg believes that this king preceded Onkh-em-aăkhuti, who is also known in Theban documents.

Let us now turn to what is known of the general history. We find that, at Philae, Ergamenes the Ethiopian built between the works of Ptolemy IV and V, showing that the Ethiopian occupation there lay somewhere between 220 and

182 B.C. At Dakkeh Ergamenes built the inner part, and Ptolemy IV the outer part of the temple; probably, therefore, he did this within the reign of Philopator, 222–204 B.C. And not only Ergamenes, but also his successors, must have been within these limits, for Ptolemy IV to have re-gained Dakkeh again after them. As we cannot put these three Ethiopian kings between 207 (the dating by Pedyamenapt under Philopator) and 204 the end of the reign, it seems they must have ruled between 220 and 210 B.C. Probably the whole force of Egypt was needed in Syria to resist Antiochus in 219 B.C. and onward, and it was then that Ergamenes occupied Upper Egypt, and was succeeded by Hor-em-aăkhuti and Onkh-em-aăkhuti before 210 B.C., at which year the scribe dates again by Philopator. The Edfu inscription does not disprove this, as it was written at the close of Philopator's reign, and naturally ignored the rule of the usurpers who had passed away.

Returning to these papyri, which were found in the Earl of Carnarvon's excavations at Thebes, one is for the sale of a small plot (430 square feet) of town land, and the other for the sale of two acres of agricultural land. According to the cautious habit of that age no price is named, only a statement is made that the buyer is fully satisfied with the silver received. This omission of what is usually considered an essential part of a sale contract may have been due to evading a part of the percentage of government tax on sales, or avoiding an opening for future litigation about the full receipt of the amount. Each contract is signed by the usual sixteen witnesses. The details of the boundaries are so full that—as in the case of the Aswan Aramaic papyri—a plan of the region can be drawn from the description.

Recherches sur la famille dont fait partie Montouemhat.—GEORGES LEGRAIN. (Continuation.) 2^{me} *partie, Les Enfants de Khaemhor. Branch Nsiptah.* The separate documents are numbered.

27. Part of a table of offerings of Amenardys, daughter of King Kashta, and her mother Shepenapt, daughter of King Uasarkon. Names Mentuemhat born of Nesptah and Ast-khebt.
28. Table of offerings of Mentuemhat born of Nesptah.
29. Base for a statue, of the same.
30. Another base, of the same.
31. Fragment of a statue of Mentuemhat.
32–3–4. Half discs with inscriptions of Mentuemhat; naming also Harmerti, son of Mert-ne-horu, son of Hor.
36. Fragment of black granite statue of Hor, son of Mentuemhat, son of Nesmin; not the preceding man.
37. Headless statue of Mentuemhat, found in the temple of Mut.
38. Statue of Mentuemhat, of black granite, at Berlin.
39. Bust of Mentuemhat; temple of Mut.
40. Table of offerings of Mentuemhatsenb, XXVIth dynasty.
41. Bricks of Mentuemhat, probably from his tomb.
42. Ushabtis of Mentuemhat.
43. Genii of the tomb of Mentuemhat.
44. Tomb of Mentuemhat, published in *Mem. Miss. Française du Caire*, V, 613. List of titles quoted here.
45. Fragment of scene apparently from the tomb of a Prince Mentuemhat.

REVIEWS.

Development of Religion and Thought in Ancient Egypt.—By JAMES HENRY BREASTED, Ph.D. 8vo. *7s. 6d.* xix + 379 pp. (Hodder and Stoughton, 1912.)

This is the most important book that has appeared for many years past upon the religion of Egypt. It gives the first translations and summary of the Pyramid Texts, from the parallel versions issued by Dr. Sethe. Till now there has only been the original edition of Sir Gaston Maspero, with his first French translation, which was of the greatest value twenty years ago. By now, a fresh handling of the subject is wanted; Dr. Sethe has finished his parallel edition of all the versions in different pyramids; Prof. Breasted here summarises the whole view of these oldest religious documents, and we only now wait for the complete translation promised by Dr. Sethe, which all scholars will hope may not long be delayed.

Dr. Breasted begins with an outline of the influence of Nature on the religion, the dominance of the Sun-god, Ra, and the power of the Nile under the form of Osiris. Osiris has been many things to many people,—god of the dead, god of vegetation, the Nile-god, the deified law-giver. A new Plutarch might write as puzzled and confused account of him as did the ancient speculator, and find as many possibilities of explanations. This book gives plenty of passages enforcing the connection with the Nile; but, not to be one-sided, these are followed by references to Osiris as the Sea, as the fertile soil, and as vegetation. An outline of the Osiris, Isis, and Horus myth follows, the usual late version of which is supported by passages from the Pyramids.

Having dealt with the mythologic basis, the next chapter treats of the life after death, the primitive tomb dwelling and the later theologic developments. The view of the *ka* as being in heaven and protecting the dead in the future is strongly supported. Yet the figures which show the *ka* as born and growing with the person need to be reconciled with this; and, indeed, it is difficult to separate the *ka* from the personality. The Nigerian belief in the ancestral spirit, in-dwelling and acting as the guardian in life and in death, seems to reconcile all the statements, as has been pointed out in a previous article.

The description of the Pyramid Texts follows. These oldest religious documents are shown to be extremely composite, built up of beliefs of three or four civilisations; the nature of their contents are classified as: (1) Ritual of the funeral and subsequent offerings. (2) Magical charms. (3) Very ancient ritual of worship. (4) Ancient religious hymns. (5) Fragments of old myths. (6) Prayers and petitions on behalf of the dead king. Their historical classification has been dealt with in the Drew Lecture, published in this part, and will therefore not claim our notice further. The next chapter shows how the earlier Osiris beliefs were overcoming the Ra religion, and being incorporated with it.

Leaving the Pyramid Age, Prof. Breasted then launches into the reaction from faith in magic powers, and sketches the disillusion of men on seeing the futility of the pyramids and tombs; this is reflected to us in the songs, the dialogues, and the laments of an age without hope.

The growth of a belief in future recompense is then traced, as forced on men's minds by the imperfection and injustice of this life. The Osiris-worship of the primitive people became much amplified; the inequalities of conditions here were believed to be rectified by the examination which condemned the evil and allowed the good to go to Osiris. The most original and powerful part of the book is a restoration of the scenes of the funeral feasts, from the details given in the endowment lists. Here Prof. Breasted has done what every scholar ought to do with his knowledge, applied it to restore the past to our imaginations. Such a sketch from one who knows all the sources, however uncertain some detail may be, is far better than leaving readers entirely in the dark as to the sense and value of a list of details.

The astonishing and brilliant episode of the Aten-worship—the greatest idealism in the world before Christianity—is described, none too fully. Lastly, the rise of individual religion is sketched, but without coming down to the Alexandrian development under Oriental influence, which is the most important to us.

We must heartily congratulate the author on this volume. It shows throughout the first qualification for writing on the religion—a sympathy with the different beliefs on religion and ethics—a requirement which has hitherto been almost the prerogative of Dr. Wiedemann, and which has been lamentably absent from some other works on the subject. Scholastic precision may translate business documents, but something much larger is needful when we come to human faiths and feelings. Dr. Breasted has that needful something, and it would be fortunate if he would apply it to a translation of the whole Pyramid Texts, and an historical analysis of their various origins.

Papyrus Funéraires de la XXI^e^ dynastie. Le Papyrus hiéroglyphique de Kamara, et Le Papyrus hiératique de Nesikhonsou, au Musée du Caire.—ED. NAVILLE. 4to, 38 pp., 30 plates. (Leroux, Paris, 1912.)

This beautiful publication is the finest yet issued on the Book of the Dead. The plates exceed in clearness even those of the papyrus of Iouiya, issued by Prof. Naville five years ago. We are indebted to this volume for two illustrations here (Figs. 21, 22), which will show how successfully the rendering of the papyri has been made. The papyrus of Queen Kamara (often called Ra-ma-ka) of the XXIst dynasty has long been known from some photographs of parts of it. It is here given on ten plates, which comprise Chapters 1, 6, 77, 79, 82, 83, 85, 86, 87, 99, 100, 105, 110, 123, 125, 138, 144, 146, 148, 149, 150, 151, in a very irregular order, beginning with Chapters 151 and 6. One very short new chapter appears, compiled out of sentences from well-known passages. Prof. Naville adheres to the old view that Mut-em-hat was the infant child of Queen Ka-ma-ra, and is much surprised at her having the full titles of royal wife. But there is nothing to show that Mutemhat was not the personal name of the great heiress-queen who took the royal cartouche Ka-ma-ra; exactly as Hatshepsut took the same cartouche long before. The name Mutemhat occurs twice in the papyrus, in just the same manner as the name of Kamara, without any suggestion of being a different person. On the sarcophagus the two cartouches are set out together side by side with their preliminary titles. We do not really know the name of the infant who was buried with Queen Kamara Mutemhat.

The papyrus of Nesikhonsu I, wife of Pinezem II, is not such fine work as the preceding. It occupies thirty plates, with some fairly good scenes and figures.

It contains the Chapters 1, 2, 4, 5, 6, 10 or 48, 17, 31, 38, 41, 55, 63, 65, 77, 81, 82, 83, 84, 85, 86, 96, 97, 98, 99, 100, 102, 103, 104, 105, 107, 109, 110, 111, 112, 113, 125, 136, 153. It is much to be hoped that Prof. Naville will publish further texts in the admirable manner of these plates.

Christian Antiquities in the Nile Valley.—SOMERS CLARKE, F.S.A. 4to, 234 pp., 56 plates, 42 figures. (Clarendon Press, Oxford.)

In no land is Christian architecture so neglected as in Egypt; fortunately it has now found a competent recorder in the former architect to our St. Paul's Cathedral. Mr. Somers Clarke has for years past hunted over 1,400 miles for the little neglected shrines from Soba down to Antinoe, pathetic relics that have survived twelve centuries of continued persecutions.

In this volume are full plans, many sections, and some elevations, beside maps; but it is difficult to grasp the full amount of work collected here, as there is no table of contents, and the churches are not numbered. A very full index partly compensates for this difficulty. The main interest to most readers will lie in the two grandest buildings, the White and Red Monasteries near Sohāg: of these a considerable account is given, pending the great official publication which is some day to come. Not only is the long line of churches great and small described here, but the use and system of them is considered, and an account of the present method of building illustrates the actual construction. It is, indeed, fortunate that the churches have found a recorder, before they further disappear. A zealous photographer could not do better than take this volume for guide book, and put on permanent record the architectural appearance of all the buildings.

The Fate of Empires.—A. J. HUBBARD, M.D. 8vo., 220 pp. (Longmans.)

Though this book only refers secondarily to Egypt, yet its principle of "an inquiry into the stability of civilisation" is so wide-spread that it needs notice here, as enabling us to see the meaning of Egyptian civilisation. The author's main view is the distinction of two opposing forces in all civilisations. One force is the Family Instinct, which looks to the exaltation of the Race, past and future, under religious sanctions. The other force is the Social Instinct, which looks to Society as an end, and makes the immediate interests of the present dominant under selfish Reason. Each of these forces is needful for the general welfare.

Their effects are shown by their excesses. If the Family overpower Society the result may be seen in Egypt, and now in China, with its immense overcrowding, lack of national solidarity, and all ends and means justified by the family benefit. This form of life is, however, permanent, and capable of bearing almost any shocks and troubles without collapse. If Society overpower the Family the result is seen in the Roman Empire, where the height of felicity was to exhaust all capital and possible means of pleasure for the present individual, totally regardless of the Race. Socialism is the form of this order of things, and the result is extinction. The author concludes that no civilisation founded on purely selfish Reason can be permanent; and that the family instinct, and its religious sanctions, are necessarily essential to any lasting system of racial existence.

NOTES AND NEWS.

THE British School of Archaeology in Egypt has for several years been steadily clearing the country from Cairo southward. Various existing rights of excavation have stood in the way, and have been respected by leaving such sites in their present state of neglect. But the series of clearances made at Gizeh, Memphis, Mazghuneh, Shurafeh, Tarkhan, Riqqeh, Gerzeh, and Meydum have opened up and published every site of this region which is not kept waiting for other excavators. In the coming season this work will continue further southwards. One camp will begin on the Gebel Abusir at Harageh, where an immense cemetery of the XIIth dynasty lies still untouched in modern times. This part of the work is in the hands of Mr. Engelbach, who did so well on the cemetery of Riqqeh last year: he is at present helped by Mr. Guy Brunton, Mr. Battiscombe Gunn, and Mr. Willey, Another very promising subject is the small pyramid adjoining that of Senusert II at Lahun. Twenty-five years ago, Prof. Petrie found the core of this pyramid, and cleared over the whole region of it without reaching an entrance. He is now going to return, with clues which have come to light since that time. As this pyramid is probably that of the queen of Senusert, it may prove of much interest. This work will be joined by Mr. and Mrs. Brunton, Rev. C. T. Campion who worked at Tarkhan last season, Dr. Amsden, and Mr. F. J. Frost. Mrs. Flinders Petrie will again undertake the drawing of the antiquities during the season, as in each year.

Dr. Reisner will carry on his great clearances at the Pyramids of Gizeh, on which he has been engaged for so many years.

Mr. Quibell is continuing the excavations at Saqqareh for the Egyptian Government. He expects to clear a cemetery of the Roman Age this winter, if an important change should not officially supervene.

Mr. Mace will be at work on the pyramid of Amenemhat I at Lisht, in continuance of the work of the Metropolitan Museum of New York.

Dr. Borchardt will excavate between El-Badari and Hawara in the Fayum.

The Italian work will be at Kum Ghirzeh near El-Rodah in the Fayum.

Further south, Mr. J. de M. Johnson is going to excavate at Antinoe, for the Graeco-Roman Branch of the Egypt Exploration Fund. It is hoped that such an important Greek city may yield papyri, although it has been much searched.

Mr. Blackman will continue the work of the Archaeological Survey at Meir.

The German work will be renewed which was so successful last season at Tell Amarna, where a sculptor's workshop was found.

Daninos Pasha will take up the search at Eshmuneyn, in furtherance of the discoveries made there in recent years.

Antaeopolis (Qau el-Kebyr) and five miles southward to Nawawrah will be the ground of Prof. Steindorff's excavations.

Further south still, the Egypt Exploration Fund, in resuming the work on the Osireion at Abydos, has sent Mr. Wainwright (who has earned his spurs in the British School) to carry on the excavations, which will be directed by Prof. Naville, assisted by Prof. Whittemore. It is hoped this season to push on the clearing of this great subterranean structure up to its contact with the Temple of Sety. The subsidence in the axis of that temple (published in 1902) naturally leads to the idea that some subterranean structure underlies it. The copies of the Sinai inscriptions, which were made in 1905, are now being finally arranged for publication by Mr. Eric Peet and Dr. Alan Gardiner.

At Thebes there will be the usual concentration of workers. Mr. N. de G. Davies is continuing the great task of preserving the paintings in facsimile copies. Mr. Howard Carter continues the work of the Earl of Carnarvon at El-Birâbeh, Mr. Winlock for New York is working out the palace of Amenhotep III at Mayata. Mr. Lythgoe continues the work at El-Asasif. Mr. H. Barton is working for Mr. Theodore Davis on the south of Medinet Habu temple, Dr. Möller for Berlin will probably work at Der el-Medineh, Mr. Robert Mond has organized the very necessary work of clearing, repairing, and photographing the painted tombs of Thebes, which are so priceless for their pictures of Egyptian life. Mr. Mackay (who so long worked with the British School) is now carrying out this work in a systematic manner, one of the most needful tasks, which ought to have been performed long ago by the Government.

At Aulad Yahia in Nubia Mr. West will begin excavating.

Rumours are afloat that a royal tomb was robbed last summer; and that the obelisk of Senusert I, which has stood in its place for 5,000 years at Heliopolis, is to be desecrated to ornamenting a garden in Cairo! It may be a question whether the fallen colossi of Memphis are best in their place, or in city squares; but to carry off the oldest obelisk in Egypt, which has stood in its own place unmoved through most of history, for a trivial piece of decoration which will be out of date in a few generations, would be a degradation of antiquity.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

THIS Association was founded eight years ago for the large number of persons who wish to keep in touch with research in Egypt. It is expressly connected with the British School of Archaeology, to which it contributes, and by which it is supplied with travelling series of small antiquities sent on loan to the various branches. Reports on the current work are also supplied to the meetings. Anyone wishing to open a local centre should apply to the founder, Mrs. Sefton-Jones, 18, Bedford Square, London. The papers for the present season are here given, with the addresses to which application should be made for membership (3*s.* or 4*s.* yearly).

LONDON. (Hon. Sec., Mrs. Sefton-Jones, 18, Bedford Square, W.C.)—First Meeting, Oct. 15, at the above address; 8 p.m., tea and coffee, 8.30 p.m., lecture: Prof. Flinders Petrie, on "Unwritten History." Nov. 27, Dr. Alan Gardiner, on "Egyptian Ethics" (to be published in our April number). Dec. 5, Reading of Drew Lecture on "The Egyptians' Belief in a Future Life." Dec. 11, Prof. P. E. Newberry, on "The North-western Delta, its People and their Cults." Jan. 23, Dr. Haddon, on "Study of Savages." Feb. 26, Miss Murray, on "Ancestor Cults." May Meeting, at University College, Prof. Flinders Petrie's lantern-lecture on New Discoveries.

BOURNEMOUTH. (Miss E. Allis-Smith, Martello Towers, Branksome Park.)—Dec. 8, 3.30 p.m., at Kelton Manor Road (Mrs. Fane), Mrs. Sefton-Jones, on "Prof. Flinders Petrie's recent Work," showing some of the objects found. Jan. 14, 3.30 p.m., at Shalimar, Wilderton Road, Branksome Park (Mrs. Claude Lyon), lantern-lecture by Claude Lyon, on "The Temple of Abu Simbel." Meetings, Feb. and Mar., IIIrd and IVth dynasties.

EDINBURGH. (Mrs. Melville, 16, Carlton Street.)—Oct. 28, 3 p.m., in Heriot Watt College, lantern-lecture, Mrs. Flinders Petrie, on "Recent Excavations of a Ist dynasty Site," followed by a demonstration in the Royal Scottish Museum. Other meetings not named.

FARNHAM. (Miss G. D. Buckle, Brackenhurst, Farnham.)—Oct. 31, Miss G. Buckle, on "Temple Ritual." Dec. 4, Mrs. Milne, on "Funerary Rites." Jan., Brigadier-General Mitford, C.B., D.S.O., on "Berber."

GLASGOW. (Miss Bruce Murray, 17, University Gardens.)—Oct. 29, 8.30 p.m., in University, lantern-lecture by Mrs. Flinders Petrie, on "Recent Excavations of a Ist dynasty Site." Nov. 25, 4 p.m., in Park Parish Church Hall, Rev. A. C. Baird, B.D., on "Relations of Egypt to neighbouring States, XIXth dynasty onwards." Jan. 14, 3 p.m., Prof. Stevenson, D.Litt., on "A Storyteller of Fifth Century B.C." Feb. 17, 4 p.m., Dr. J. D. Falconer, on "Traces of Early Egyptian Culture in Western Sudan." Mar., Evening meeting.

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Oct., Paper on "The Hittites." Nov., Rev. J. D. Gray, on "Neolithic Age." Dec. 1, Mrs. Purdon, on "Ancient Egyptian Magic." Jan., Dr. Yanton, on "The Egyptian Lotus." Feb., Lecture by J. S. Parkin. Mar., Paper on the Cretans.

REIGATE. (Mrs. Paul, Hilton Lodge.)—Oct. 17, "Readings from the Book of the Dead." Nov. 13, "Mythology and Religion of primitive people and Ideal of God." Dec. 4, "The Abode of the Blessed, and Doctrine of Eternal Life." Jan., Feb., and Mar., Lectures by Miss L. Eckenstein, on "Mummies," "Amulets," "Dress, Religious and Secular."

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.)—Oct. 30, Miss Harvey, on "Ancient Civilisation of Crete." Nov. 26, First Paper of the Historical course, Ist, IInd, and IIIrd dynasties. Dec. 31, Historical course continued.

TINTAGEL. (Mrs. Harris, St. Piran's.)—Oct. 6, "Prehistoric Egypt and the First Three Dynasties." Nov. 3, on "Recent Discoveries." Dec. 1, "On Flints, Jewellery, etc." Mar. or April, Prehistoric.

In addition to the E.R.S.A., there is a Local Society for Manchester, entitled the Manchester Egyptian and Oriental Society, which has always worked in collaboration with us.

MANCHESTER. (Miss W. M. Crompton, The University.)—Oct. 6, 4.30 p.m., Prof. Flinders Petrie, on "Early Cylinders and Scarabs." Oct. 27, 8 p.m., Prof. Elliot Smith, on "The Foreign Influence of Egypt during the Old Kingdom." Nov. 14, Dr. Louis Gray, on "Zoroastrianism and other Material in *Acta Sanctorum*." Dec. 8, 5 p.m., Rev. J. A. Meeson, on "Wisdom Literature." Dec. 15, 8 p.m., Dr. Alan Gardiner, on "Egyptian Hieroglyphic Writing." Lectures for 1914, by Mr. W. Burton, on "Egyptian Glazed Ware"; by H. R. Hall, on "Greek Monasteries"; Prof. A. Dickie, on "The Origin and Development of Building amongst the Jews"; Prof. Lehmann-Haupt, on "Tigranokerta Rediscovered"; and A. M. Blackman, on "The Painted Tombs at Meir."

HILDA FLINDERS PETRIE.

THE PORTRAITS.

1. This head is certainly a portrait of AMENEMHAT III. It is of the same peculiar physiognomy and expression as the large, seated figure in the Cairo Museum, which was found on the site of the Labyrinth at Hawara. That figure, in fine condition, and bearing the full names of the king, served to fix for us his portraiture. Here we see the same curiously flat cheeks, the slight nose, and the thin compressed mouth, which are so characteristic of this king, and so different from any other head that we know. In the flat face and narrow lips perhaps, of all kings, Henry VII is the nearest parallel. There is none of the full vitality and obvious strength which are so plainly seen in Senusert I, or Senusert III. It is difficult to imagine such a man, with an almost pathological look of ill-health, raising the Labyrinth, the greatest temple of Egypt, which lasted as a world-wonder for three thousand years; or designing that immense burial chamber hollowed out of a single block of flinty rock, 26 feet long and 12 feet wide, which encompassed him in the pyramid of Hawara after a reign of forty-four years. This head is carved in a mottled diorite of fine grain. It was purchased by Miss Amelia Edwards, and bequeathed by her to University College, where it now is.

2. This bust of the XVIIIth dynasty is one of the most charming pieces of sculpture of the great period of Thebes. It has originally been part of a group of two figures seated side by side, as husband and wife were usually represented at that time. One day I had the pleasure of showing it to my friend, the late Sir Francis Galton; he gazed for some time, and then with a sigh, said: "Ah! to think she should ever have died!" For the sweet and gracious dignity of this face there is scarcely an equal after the Pyramid Age.

30. Lady of XVIIIth dynasty. Limestone. Birmingham.

Some traces of inscription remain on the back, beginning with a *Nesut dy hetep* to Haraăkhuti, and apparently naming Hor-nez-atef, son of the messenger (*khăs*) whose name is lost. No such name is found in Lieblein, Legrain, or Weigall's guide to the Theban tombs.

This bust is carved in the very hard limestone which was usual in the reign of Amenhotep III. I owe the cast, and the photograph on this page, to the kindness of Sir Whitworth Wallis; he was informed by a friend, who was moving house, that he could have "two old stones that are in the stable." This was one of them, and it is now an ornament of the Art Gallery at Birmingham.

W. M. F. P.

1. KING AMENEMHAT III. UNIVERSITY COLLEGE.

2. LADY OF XVIIITH DYNASTY. BIRMINGHAM.

ANCIENT EGYPT.

THE BRITISH SCHOOL AT LAHUN.

THE work of the British School of Archaeology in Egypt, under the direct supervision of Prof. Petrie, round the Pyramid of Senusert II at Il Lahun (Fayum) began on 6th January. The principal object in view is the complete clearance of the pyramid enclosure, in order to plan the various constructions, and to discover, if possible, an entrance into the burial chambers of the royal family. On the analogy of other XIIth dynasty pyramids, the entry to these tombs should exist somewhere beneath the space enclosed by the temenos wall. Originally a rocky

slope existed here, with its highest part to the north. The whole site has been levelled by cutting down into the solid rock, and by building up with chips to some extent on the south. All round the rocky knoll which formed the core of the pyramid, there are now high mounds of chips; while on the north the whole cutting has been filled up again with sand and débris. Fortunately plenty of labour is available, and at present some 220 men and boys are at work. Of these, 23 are

Prof. Petrie's old hands from Quft, who know well the meaning of every variation in the ground in which they are digging, while the remainder are villagers from two or three miles away, who tramp to the work, with their hoes, and their boys, and their baskets; they toil from soon after sunrise to ten minutes before sunset, with an hour's rest at noon, and then trudge home again. They are mostly poor folk, and are glad of the chance of earning a good wage. They are quite unskilled, but soon improve under the eyes of the trained Quftis, who are each one in charge of three "locals."

The first photograph gives a good idea of the method, extent, and difficulty of the work. The view is looking east, along the rock cutting which bounds the enclosure on the north. The men hoe up the ground, fill the baskets, and lift them on to the shoulders of the boys, who empty them some distance away. When the pit gets very deep, a chain has to be formed, with a succession of lifts. The rock which in the north-west corner is levelled down to some 20 feet has been faced with a thick brick wall covered with white plaster.

About 15 feet south of this wall, stands a row of eight masses of solid rock, one of which can be seen on the right in the photograph. They are about 30 feet by 45 feet, and the highest about 15 feet, apparently in the form of mastabas; no doubt they cover the burial chambers of the royal family. The whole corridor between the vertical face on the north and the mastabas is now clear from east to west down to its rock pavement, and to walk along from end to end in its cool and shady depth is a striking experience. Robbers in the past have been active here. They have pulled down or made large holes in the brick-work, and have even tunnelled right through one of the rock masses, in their apparently fruitless search.

A small pyramid, 90 feet square, no doubt of the Queen, stands at the north-east corner of the enclosure. The whole of the surrounding pavement is now cleared, but beyond a few coloured chips of sculpture from the chapel, and foundation deposits of minor interest, nothing has been found. The fine white limestone which once covered the rough core of the pyramid, and which paved the enclosure, has almost completely disappeared. The second photograph shows the work on the north-

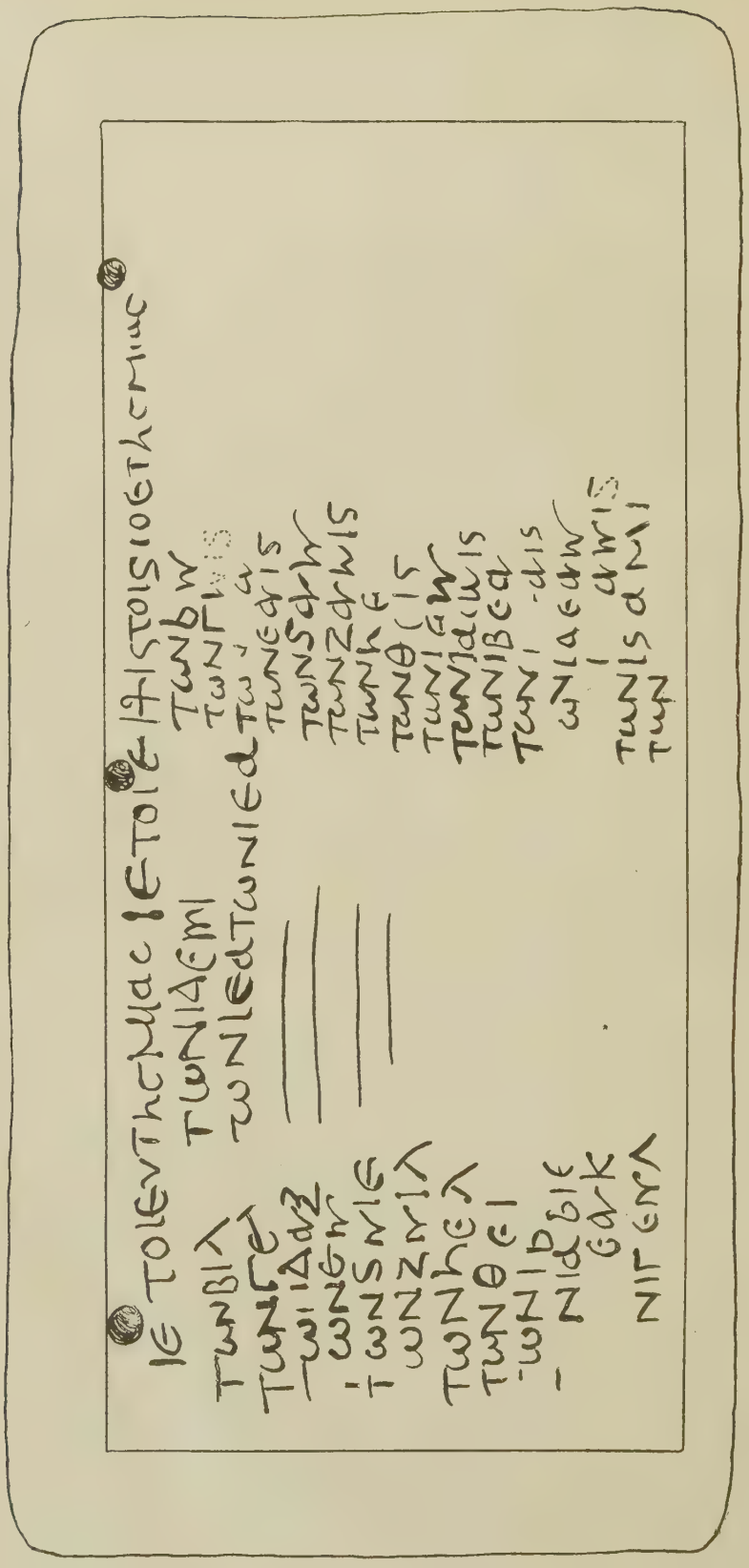
east corner here, looking south, with the eastern side of the large pyramid enclosure in the distance. This is better seen in the third photograph. The whole of the foundations of the enclosure walls have been laid bare, and this clearance is further continued up to the original foundation of the pyramid. Very curiously, the rock

floor has been cut so as to slope gently inward for 40 feet, after which it rises up again towards the pyramid. It was then covered over and levelled up with clean sand, and a layer of flint pebbles on the top. This trench full of sand seems to have been intended to receive and absorb any rain that ran off the pyramid, so as to prevent the water soaking into the foundations. The temple area was buried 15 to 18 feet deep in chips, but it has been completely cleared, and the rock surface everywhere examined minutely for any traces of hidden entrances. The third photograph will give a good idea how this was done, every crack in the rock being examined, and brushed clean.

Outside the temenos wall was found a line of deep circular pits filled with mud. These have been traced right round the east, south, and part of the west sides. Some of them contained roots and branches, and their purpose is obvious. A row of trees surrounding a pyramid is quite unknown elsewhere, and we can easily imagine what a pleasing effect they must have produced,—the shining, white pyramid, the green line of trees, and then the yellow desert.

Mr. Engelbach's work four miles away at Harageh has been very successful, in a cemetery which is mainly of the XIIth dynasty.

GUY BRUNTON.



Byzantine Table of Fractions, Multiples of Fifteenths and Sixteenths.

ΙΕ ΤΟ ΙΕ ν ΤΗC ΜΙΑC ΙΕ ΤΟ ΙΕ ι

15. The 15th part of one = 1/15th The 15th part

ΤΩΝ	Β ι ∧
Of	2 = 1/10+1/30
ΤΩΝ	Γ ϵ
Of	3 = 1/5
ΤΩΝ	Δ ∠ ξ
Of	4 = 1/4 + 1/60
ΤΩΝ	ϵ ν
Of	5 = 1/3
ΤΩΝ	ς ν ιϵ
Of	6 = 1/3 + 1/15
ΤΩΝ	ζ ν ι ∧
Of	7 = 1/3 + 1/10 + 1/30
ΤΩΝ	Η ϵ ∧
Of	8 = 1/2 + 1/30
ΤΩΝ	θ ϵ ι
Of	9 = 1/2 + 1/10
ΤΩΝ	ι b
Of	10 = 2/3
ΤΩΝ	ιΑ b ιϵ
Of	11 = 2/3 + 1/15
ΤΩΝ	ιΒ ϵ ∠ Κ
Of	12 = 1/2 + 1/4 + 1/20
ΤΩΝ	ιΓ ϵ ν ∧
Of	13 = 1/2 + 1/3 + 1/30

ΤΩΝ ιΔ ϵ ν ι

Of 14 = 1/2 + 1/3 + 1/10

ΤΩΝ ιϵ Α ΤΩΝ ιϵ Α

Of 15 = 1 Of 15 = 1

SIGNS OF FRACTIONS

2/3		b
1/2		ϵ
1/3	ν′	ν
1/4	Δ′	∠
1/5	ϵ′	ϵ
1/8	Η′	ν

ϙ ΙS ΤΟ ΙS ι Οϵ ΤΗC ΜΙΑC ....

16. The 16th part of one = 1/16th

ΤΩΝ	Β ν
Of	2 = 1/8
ΤΩΝ	ςΓ ν ιS
Of	3 = 1/8 + 1/16
ΤΩΝ	Δ ∠
Of	4 = 1/4
ΤΩΝ	ϵ ∠ ιS
Of	5 = 1/4 + 1/16
ΤΩΝ	ς ∠ ν
Of	6 = 1/4 + 1/8
ΤΩΝ	ζ ∠ ν ιS
Of	7 = 1/4 + 1/8 + 1/16
ΤΩΝ	Η ϵ
Of	8 = 1/2
ΤΩΝ	θ ϵ ιS
Of	9 = 1/2 + 1/16
ΤΩΝ	ι ϵ ν
Of	10 = 1/2 + 1/8
ΤΩΝ	ιΑ ϵ ν ιS
Of	11 = 1/2 + 1/8 + 1/16
ΤΩΝ	ιΒ ϵ ∠
Of	12 = 1/2 + 1/4
ΤΩΝ	ιΓ ϵ ∠ ιS
Of	13 = 1/2 + 1/4 + 1/16
ΤΩΝ	ιΔ ϵ ∠ ν
Of	14 = 1/2 + 1/4 + 1/8
ΤΩΝ	ιϵ ϵ ∠ ν ιS
Of	15 = 1/2 + 1/4 + 1/8 + 1/16
ΤΩΝ	ιS Α ΜΙ..
Of	16 = ι one
ΤΩΝ	
Of	

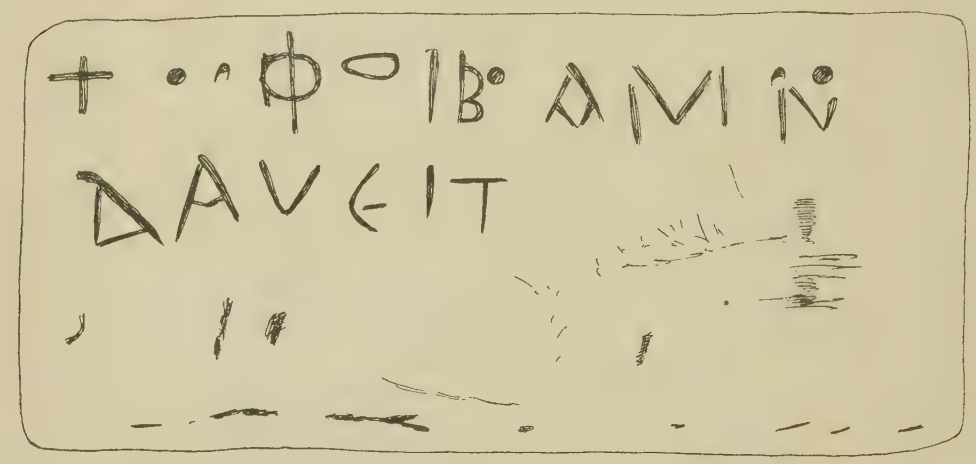
Transcription and Translation of the Table of Fractions.

A BYZANTINE TABLE OF FRACTIONS.

THIS outer leaf of a set of writing tablets, has two lists of fractions written in ink upon the recessed surface of the wood. These lists show the method of compiling multiples of $\frac{1}{15}$th and $\frac{1}{16}$th, which will be best followed in the transcription and translation facing the facsimile. The system was to add together a series of fractions, each with one as numerator, so as to make up more complex fractions. Thus here the 15th part of 7 is stated to be $\frac{1}{3} + \frac{1}{10} + \frac{1}{30}$. We can verify this in our way by saying that $\frac{10}{30} + \frac{3}{30} + \frac{1}{30} = \frac{14}{30}$ or $\frac{7}{15}$. This is the regular system of ancient Egypt, and it is interesting to see how it was continued on into Christian times, while it is still familiar to the modern Copt.

The reading of the columns begins with "15" and "16," showing that this is part of a series of tablets giving the composition of various fractions up to $\frac{1}{16}$ths, which is the last. The heading continues: "The 15th part of one is $\frac{1}{15}$th, the 15th part of 2 is $\frac{1}{10} + \frac{1}{30}$," and so on to the foot of the tablet, after which two more entries are put up at the top of the middle part. The further column is parted from the first by the *chi rho* monogram. It reads: "16. The 16th part (O E unexplained) of one . . . ." doubtless $\frac{1}{16}$th is lost; "of 2 = $\frac{1}{8}$th; of 3 = $\frac{1}{8}$th + $\frac{1}{16}$th," etc.

A list of the signs used for the fractions is added to the transcription here for convenience.



OUTSIDE OF TABLE OF FRACTIONS, "PHOIBAMN DAUEIT."

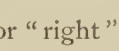
On the back of this tablet, which was the outer one of the group, is very roughly cut "Phoibamn Daueit," probably the name and paternity of the schoolboy who used it. The size is 10·6 inches long and 5 inches wide, with three holes through it to tie the leaves together; there are two smaller holes running out in the edge, for securing a string round the tablets in order to seal them. It was bought in Egypt, 1913, and is now in University College, London.

HERBERT THOMPSON.

NOTES ON THE ETHICS OF THE EGYPTIANS.

In our study of the civilisation of the ancient Egyptians, it is interesting to consider an aspect which is too often neglected. We are apt to concentrate our attention on the material side, to study their great monuments and the concrete details of their life as depicted in the tombs, and one forgets to ask what were these people like, as men? What were their ideals, their estimates of right and wrong? If we are liable to overlook this, in our study of archaeology or of philology, it is not the fault of the Egyptians themselves. In all their inscriptions, wherever there are monuments or writings to study, we find that they are lavish in the expression of their ethical ideas, though it is often only to make a boast of their own virtues or their own position. There is a large proportion of inscriptions which deal with what we vaguely call titles. Some of these refer to the rank and offices of the deceased, but they are interlarded with many expressions regarding the moral qualities which they claimed to possess. Almost every stele has—"I gave bread to the hungry, water to the thirsty, and clothes to the naked."

The first thing that we notice about these expressions is the extremely concrete way in which they express themselves. It is curious that so ethically-minded a people should have had no word for "ought." Although they were always boasting of their virtues, they did not possess this word, and when they required to convey the notion of duty, they put it more literally: "I did what men love, and what the gods approve." Approbation from without seems to have been a chief incentive to virtue.

The stock of words conveying abstract ideas was extremely limited, and the words were very simple. The word for "right" is *ma'et* (*măot*)  meaning right direction, and derived from a verb "to be straight," "to lead straight on." Thus *ma'et* signifies conformity to an ethical norm, though it is often equally well translated as Truth or Justice. The word for iniquity is *'iesfet*; there are not many words for crime. "Duty" is generally conveyed by the phrase *'ere-t*, "that which appertains to a man," meaning the obligation which rests upon him. There is no word for "will." Conscience is sometimes represented by *'ieb* (ab) "heart," expressing not only the mere instrument of cognition, but also the faculty which recognises and suggests the right course of action. On an XVIIIth dynasty stele we read:—"Thus saith he. This is my character to which I have borne witness, "and there is no exaggeration therein . . . It is my heart (*'ieb*) that caused me to "do it through its guidance unto me. It was an excellent prompter unto me; "I did not infringe its commands; I feared to transgress its guidance. Therefore "I prospered exceedingly, and was fortunate on account of that which it caused me "to do; I succeeded by reason of its guidance. Of a sooth, true is that which is "said by men: 'It (the heart) is the voice of God that is in everybody; happy is "he whom it has led to a good course of action!'" Beyond a few similar passages there is not much which refers to any ethical concept, and it seems as though the ethical thought of the Egyptians never attained any very high level.

The Egyptians were not philosophers, and they were unable to account in any philosophical manner for their rules of conduct. They seem to have possessed no

words for "motive," "responsibility," or "scruple." They apparently never wrestled over the difficulties of opposing lines of conduct; their minds were not torn by moral struggles. It was recognised that some things were intrinsically good, and others bad, but we never find anything but the crudest lines of division; it is never implied that such and such conduct may be good in one person or instance, and bad in another. In ancient Egypt, the philosophic level was not reached; it was only so in the regions of the Mediterranean area, from the time when Greek influences began to prevail.

It has been already noticed in how very concrete a manner the Egyptians expressed various moral predicates. Whenever they could do so, they visualised an action, and reduced the expression of it to its simplest terms. For instance, to express what we mean by "reserved" or "discreet," they formed a simple compound, *ḥāp rō*, "hidden of mouth," and to express "kindly" or "indulgent," they said *waḥ 'ieb*, "enduring of heart." Almost all their descriptive phrases were formed in this kind of way; the words consist, for the most part, of adjectives or participles, which describe a condition that can be visualised, and they figure a limb or part of the body in which the quality to be named exhibits itself. *'Ieb* is used to denote conditions of mind and temperament, *rō* for anything manifested by the mouth, *ḥor* (*her*) for things of the face, as in *spad ḥor*, "sharp of face," meaning "intelligent," "clever," *'a*, arm, for action, as in *'aw 'a*, "extended of hand," meaning generous or liberal; and the use of these excessively concrete images to denote abstract qualities makes it extremely difficult to translate Egyptian texts with any certainty of accuracy.

The ancient Egyptians appear to have had a strong belief in fate, and they imagined that fate, *shay*, governed all the events of life. They did not, however, hold the belief that men's actions were determined beforehand. Men were hampered by predestined occurrences but were free in their own individual actions, and free from the tyranny of *Kismet* which paralyses the Egyptians of to-day. The Egyptian moralists never reached the loftiest planes of ethics. It does not appear that they realised that virtue is its own reward, but all their teaching was on a lower plane. In the maxims of Ptah-hetep, belonging to the Old Kingdom period, we read:—"Excellent is right, and endureth and prevaileth," but prudential considerations follow—"Never has wickedness brought its venture safe to port; wrong-doing stealeth away riches." It seems as though virtue was not inculcated for its own sake, but recommended for practice merely with a view to the reward that it might bring.

Perhaps the highest standpoint, in this regard, to which the Egyptians attained, was in the desire to raise up a good name, but with this there was naïvely blended the intense desire for approval, and the over-anxiety to stand well with others. He required to be in favour with the Pharaoh, and to describe himself as "beloved of his master," or as one "with whose excellence the lord of the two lands was content," but it is interesting to note that the popular verdict was also held in high account. Pharaoh was considered to be the patron and the recompenser of virtue—"the Lord of Right," and an official relates—"I did right for the Lord of Right for I knew he is pleased at it"; yet in spite of the absolute form of the government under the Pharaohs, the approval of fellow-men, and public opinion in general was held in esteem.

Virtue was considered to reap its reward on earth. A man ends a long catalogue of his own good qualities with an address to mankind: "I speak to you, "O mortals; listen and do the good deeds that I have done, and to you shall be

" done the like." To a king, it is said: " Do the right that thou mayest live long in the land." Sometimes this idea is expressed more theologically: " God returns evil to him who does it, and right to him who brings it." The fear of God is also found to be an incentive to good conduct.

The Egyptians were of course aware that it is not always the worthy who reap rewards, they noted the fact that the unworthy sometimes prosper through no merit of their own, but they regarded this as accidental. The predominance of wrong became the theme of a class of pessimistic writings, which deal with the evil conditions prevailing in certain periods. A papyrus preserved at Leyden describes the deadlock of social conditions—how " slaves have usurped the place of the rich, murder and rapine prevail, and the righteous dwell alone and in misery." One author draws the conclusion that life is not worth living, another cites as the cause, the impiety of mankind and the callousness of their ruler. The crowning passage in this literature consists in admonitions to the Pharaoh to perform various religious duties incumbent upon kings, in the hope of their leading to happier conditions in the state of the country.

With regard to the life after death, there was a gradual growth of belief that virtue would reap its reward in that life to come. In the early time (Old Kingdom), more primitive beliefs in certain rites and formulae held ground; in the literature of the Pyramid times, it is the magical element which is to the fore; indeed the whole trend of the Pyramid Texts is towards the profession of certain actions and the reading of certain formulae, and even the fact of their being written on the tomb had efficacy in the gaining of happiness hereafter. It must be admitted, however, that certain passages in the Pyramid Texts imply that righteousness would have its influence in determining the future life of man, and that the magic formulae were not the sole passport.

It is difficult to see how the change to the later and more ethical view takes its rise, and the gradual transition comes about, but it is to be found in the professions of virtues which are engraved on the funeral steles. The deceased begs an offering at his tomb, because of his good actions: " I have been virtuous, I have given bread to the hungry," etc., and this commemoration of virtues was one of the contributory causes which led up to the doctrine that virtue in this life would bring happiness in the life hereafter.

Then again, on these same steles of the Old Kingdom, it is often found that the deceased uses the name of one of the gods to threaten the evil-doer who dares to violate the tomb. The mention of judgment " in the place where judgment is given," suggests to us the conception of a deity who is the champion of the virtuous dead. Breasted shows that Rē, the Sun-god, held this position at a very early period, and then that solar beliefs were early overlaid by the Osirian beliefs, and in the later times this cult was pre-eminent and Osiris regarded as the rewarder of virtue and punisher of guilt.

One of the most famous chapters of the Book of the Dead (Chapter CXXV) contains the Negative Confession. The illustration which usually accompanies this is a vignette (see p. 27) representing Osiris seated on a dais, with the scales before him. The ibis-headed Thoth stands near, to record, and the heart of the deceased is weighed in the balance against the feather of truth (Măot). The forty-two assessors, seated above, are separately invoked in the repudiation of sins. In the two versions that have come down to us, we find denials that various forms of wrong have been committed, and we find the mention of demons as among those who punish such sins. After a preliminary invocation, the elder confession

begins :—" I have done no wickedness to men. I have not brought misery upon " my fellows. I have not wrought injuries in the place of right. I have not done " mischief. I have not made the beginning of every day laborious in the sight of " him who worked for me . . . . I have not impoverished the poor . . . . I have " not caused hunger. I have not caused weeping. I have not slain. I have not " commanded to slay. I have not made everyone suffer. I have not decreased the " meals in the temples. I have not diminished the loaves of the gods . . . . " I have not added to, or taken from, the corn-measure. I have not diminished " the palm (unit of measurement). I have not falsified the cubit of the fields. " I have not added to the weights of the scales. I have not tampered with the " plummet of the balance. I have not taken away the milk from the mouth of the " child . . . . I have not snared the birds (bones of the gods) [*sic.*; quite obscure] " . . . . I have not dammed running water . . . . I have not neglected the feast- " days, in respect of their sacrificial joints . . . . I have not hindered the god in " his goings forth " (processions). " I am pure ! I am pure ! I am pure ! I am pure!" The later confession, added to it, has much the same tone, each denial being joined to the name of a demon :—" O fire-embracer, I have not robbed," etc.

Now, with regard to the Negative Confession, its importance has been much exaggerated. It is not a canonical list of vices or acts of wickedness ; the many variants of the MSS. are enough to prove that no great stress was laid on precise cataloguing of the denials, but that they were rather chosen at random, and the list, if fairly complete, was carelessly compiled. The deceased was finally supposed to be innocent of all crime, and therefore worthy of acquittal in the presence of Osiris. Magic, in the long run, encroached upon the higher and more ethical view of things, for no doubt the chapter was employed as magical, and its words had a magical potency, when written out and deposited with the deceased. They were used as a means of conveying to him the assurance of happiness in the life hereafter.

It would take long to discuss in detail the whole catalogue of moral qualities, but, in conclusion, a short summary of the Egyptian character, from the sources at our disposal, may not be out of place.

The ancient Egyptians were a gay and light-hearted people, luxurious in their lives, and prone to self-indulgence. They were kind, however, charitable, and courteous in their behaviour, and there are no evidences of barbarous savagery and cruelties, such as were practised by the Babylonians and Assyrians. Honesty and incorruptibility were not among the strong points of the Egyptians, but in this respect they were at least able to perceive the ideal standard, if they did not attain to it. Intellectually they were gifted, though not deep, and they were averse to dull brooding ; but their love of all that is artistic and pleasurable in life, is perhaps the characteristic which has played the largest part in helping to endear them to their modern votaries.

[These notes were made on an address given by Dr. ALAN H. GARDINER on 27 November, at the London centre, E.R.S.A.—HILDA FLINDERS PETRIE.]

THE LATE PROFESSOR TSUBOI AND EGYPTOLOGY IN JAPAN.

It was some thirty or forty years ago that archaeology began to be studied in Japan as a science. It is quite natural that Egyptology, which has no direct relation to the civilisation of Japan, has not been so much valued there as in Europe, and that its study has been restricted within a narrow circle of people. No doubt the study of the ancient history of Egypt has done a good deal for the popularisation of Egyptian antiquities among the Japanese. The late Prof. S. Tsuboi of the Tokyo Imperial University was the first to study Egyptology proper.

Prof. Tsuboi specialised in anthropology, while at the same time he had a deep interest in archaeology. After studying in England, France, and other continental countries, he lectured on anthropology as well as on archaeology in the Imperial University of Tokyo. Egyptology, however, seems to have been one of his favourite subjects. He frequently gave lectures on Egyptology in the High Normal School and at various public meetings.

Thus, through him, many strange antiquities, gathered from all parts of the Nile Valley, became gradually known to the learned circle of the Japanese, and the terms, for instance, *mastaba*, *canopic-jar* or *ushabti* have become quite familiar among them. When he first came to Europe, he had hardly enough time to devote himself to the study of Egyptian antiquities ; but two years before his death, when travelling in Europe, he went to Cairo and studied the museum very carefully, and brought back to Japan some perfect models of funeral boats and other relics of the ancient Egyptians.

Learned society in Japan expected from him a satisfactory result of his study on Egyptology, but in 1913, while attending the International Congress of Royal Academies in Moscow, he suddenly died without having had time to publish the result of his studies. His untimely death was a great shock and a severe loss to Japan.

The Kyoto Imperial University, though much younger than the Tokyo University, has been closely connected with Egyptology from the time of its foundation. It has a special building for archaeological collections, joined the Egypt Exploration Fund, and has now joined the British School of Archaeology in Egypt. Since its foundation, the University has been collecting numerous antiquities from Egypt, and now we can see there stone implements and pottery of the Pre-dynastic age and various objects of the Dynastic periods. Of all these collections, those found at Deir el-Bahri occupy the greater part. This collection may be said to be the largest one in Japan, though certainly small as compared with many of those in Europe. In this University, lectures on Egyptology have been given by K. Hamada, one of the late Prof. Tsuboi's pupils.

Besides the collections in the Kyoto University, there is also a good collection of Egyptian antiquities in the Tokyo University, gathered by the late Prof. Tsuboi. This collection contains stone implements of the Pre-dynastic age, fragments of sculpture, mummies and funeral boats. In the College of Medicine there is a perfect mummy, and in the College of Literature some collection of antiquities.

Mr. Murakawa, Professor of the Ancient History of Europe, is also a student of Egyptology and often refers to it in his lectures.

Outside these two Imperial Universities, there is a good number of Egyptian antiquities in the Tokyo Imperial Household Museum, where mummies, ushabtiu, and other objects presented by the Cairo Museum, attract the eyes of visitors as do those in the British Museum. The fragments of the Greek vases found at Naukratis may be seen in this Museum and Kyoto University as well.

Now-a-days the general interest in Egyptian antiquities is increasing among private persons in Japan. This is not at all surprising when we think of the same tendency even in China. The late Tang-Fun, once the governor of the province Chi-li, was a great collector of old Chinese things and also of some ancient Egyptian things.

On the whole, in Japan, there is hardly any specialist in Egyptology as yet, and the study of this subject is still in its infancy. But there are certainly more students of Egyptology than of Assyriology.

The study of Egyptology, besides its own importance, has still more interesting relation with the study of the ancient graves and funeral customs in China. It is a most striking phenomenon to notice the similarities and coincidences between Egyptian funeral customs and those of China in the Han and Tang dynasties. The advanced methods of study in Egyptology will promote the studies of archaeology in Japan and other countries in the Far East.

K. Hamada and T. Chiba.

THE EARLIEST INSCRIPTIONS.

THE earliest known hieroglyphs and phrases are those on the primitive cylinders of stone, which are rarely found, and only in a few localities. Strange to say they have not yet been studied in any way, and are scarcely recognised as forming a distinct class of material on the early language and civilisation. Perhaps the main cause of this neglect is the rarity of them, coupled with the fact that from the purely linguistic point of view they are scarcely intelligible. It is not till a large number can be compared, and classes of them separated into definite types, that enough examples can be contrasted to see what is accidental and what is systematic in their arrangement.

In beginning the catalogue of the cylinders and scarabs at University College, I needed some classification of these early cylinders. Before a conclusive publication, it seems best to give a statement of the principal results reached, in order that some criticisms of them may be forthcoming before a final treatment. The copies here are only hand-drawn, sufficient for general study; but in the complete catalogue each cylinder will be published in photograph from a flat cast.

The greater part of the known examples are at University College; a large group was bought some quarter of a century ago by Rev. Greville Chester, probably from the looting of a single cemetery; from him they were acquired by Miss Edwards, and bequeathed with her collection to University College in 1892. I have bought a large number, all the examples that I could in Egypt. Thus there are now of—

University College, London	69
MacGregor Collection	26
Naga ed-Der, Reisner	17
All others	19
	131

Of these the Rev. Wm. MacGregor most kindly lent me his examples, and I have made flat casts of them all, from which these drawings are taken. Those published by Dr. Reisner are in hand copies, with three photographs of each cylinder in the round. I have used the hand copies as skeletons, and drawn the signs in facsimile from the photographs. Hence there are only 19 which are not drawn directly for the present study, and some of those are facsimiles of my own, others are from Prof. Newberry's *Scarabs*. Our material therefore is nearly all safe enough to draw some conclusions. To save returning to this subject again, it may be added that the drawings used here from each source are as follows:—University College, Nos. 3, 4, 13–16, 18–20, 23, 25, 26, 28, 32–34, 36–38, 42, 44–50; MacGregor Collection, 1, 5, 6–9, 21, 22, 27, 40, 43, 54, 57–60, 69, 72; Naga ed-Der, 2, 12, 17, 29, 30, 31, 39, 61–64, 66; Various, 10, 11, 24, 35, 41, 53, 65, 71. Altogether 72 are here studied (three of them repeated), the remainder being partly figure subjects, partly with signs which cannot be identified.

After the photographs were all collected, I tried to gain what help I could by submitting them to one of the greatest authorities on the early language. Such as were similar to the Royal Tombs sealings, were commented on, but the greater

part were passed over as pre-historic, and therefore insoluble. It was evident that from the standpoint of the language alone very little could be done. Some fresh handling of the whole subject was needed, to make a start and break ground. It required treating as an entirely unknown language to begin with, and resolving by comparison of formulae and study of the structure, before looking to the language for clues. After that the earliest forms of the language may be compared with the sentences thus separated, and some idea be gained of the general meaning. I am obliged to Miss Murray and Dr. Walker for some suggestions. Any attempt at present must be merely a beginning, in order to open up a more scientific study of the subject.

These cylinders are mostly older than the sealings found in the Royal Tombs of the Ist dynasty; and the 207 sealings which I drew from there are of very little help here, because those were sealings of royal domains, while these are mostly funerary or religious.

The only basis we have for the language of the cylinders is the far later body of the Pyramid Texts. According to the Egyptians' own chronology, the cylinders are about thirteen centuries before the Pyramid Texts, which are in turn only seven centuries before the XIIth dynasty. Even on the arbitrarily shortened chronology, the cylinders are as far removed from the Pyramid Texts as the latter are from the Middle Kingdom. Beside this long interval, we must remember that the changes in the writing and language would naturally be much greater while the growth and formation of a system was in progress, than they would be after a large body of texts had been standardised, and a great bureaucracy had arisen. It is therefore to be expected that the whole grammar, usages of writing, and words should differ far more from the Pyramid Texts, than those do from the system of the XIIth dynasty. As we find many orthographic usages are strange to us in the Pyramid Texts, so we must expect to find a much larger proportion of unexpected features in the cylinders. The use of a root in different parts of speech may have been very different in the earliest stages of writing, from what we find usual in the formalised language. The regular canons which are looked on by us as normal to the writing and language may have been widely divergent in the primitive and tentative stages, when each man used signs in his own fashion, and no system was yet generally developed. None of the later canons can be used as implicit guides; we need to verify them each by some clear instances of the primitive age, before we can use them decisively to settle a reading. Also we must remember how often a word lingers long in popular use before being consecrated to literature. The phrase "too-too" in modern English, has only just reached the most evanescent writing; yet Cromwell used it in a letter and a Parliamentary speech two hundred and fifty years before (speech, Jan. 22, 1655; letter of July 27, 1657). So in Egyptian there might be words and constructions used in the earliest stages, which did not become part of the literary system; but which, preserved in popular use, were at last brought into literature in later times. Hence the absence of a word in early literature is no proof that it might not be used before the literature formed its canons.

All of these considerations need to be pointed out, as the usual laws cannot be applied to such early attempts at writing. We cannot apply the rules of the game before they existed. Much greater uncertainty must of course accompany a greater latitude: and until there is enough material to define the system of the time, we cannot hope to treat the cylinder inscriptions except by a series of guesses, which often leave alternative solutions equally possible. The immense importance, however, of getting some view of the oldest stages of the writing and language,

makes it imperative to try to solve this material, and not to leave it neglected as at present.

In order to examine the material clearly, it is here divided into eight classes :—

1. Seated figures.
2. *Ăkhu* birds.
3. Religious formulae.
4. *Theth* formulae.
5. *Tet* formulae.
6. Phrases.
7. Titles.
8. Early dynastic.

Seated Figures, 1–11.

These seated figures have in all examples (except No. 2) a table of offerings before each, and usually one or two loaves on the table. The figure (except in 2) has one hand lifted over the offerings to accept them. It always has very long hair, often hanging down below the seat. The seat is fully shown in some examples, such as No. 6. The type of couch used in dynasties 0 and 1 is well outlined; it has the poles with expanded ends, the cross bars, and the short legs. For scattered examples of such figures, entered in other classes, see Nos. 12, 33, 36, 37, 38, 39, 41, 42, 43, 44, 61, 63, 64. Thus a third of all intelligible cylinders have this figure and table of offerings. It seems impossible to dissociate this from the universal type of early stele, with the deceased seated, extending a hand over his table of offerings; for an early example see the stele of Heknen (*Medum*, xvi). It appears then that these must be the earlier equivalent of the sepulchral stele, that which was to ensure future felicity to the deceased. It does not seem likely that such a design would be used as a seal by the living person, and no clay impressions of such seals are known.

No. 1 has a different type of figure, with the second arm shown, no hair, and a table with upright loaves (?). The inscription seems to read *Ah ne Neit*, "Rejoice in Neit," which may be a personal name, or less probably a pious wish for the dead. Neit is written with the crossed arrows, but very roughly drawn. (See *Royal Tombs*, I, v.)

No. 2 is a gold foil cylinder, the only such known (Naga ed-Dêr). It is very simple, reading *Neit men s, men s Neit* "Neit establishes her, establish her O Neit." The donkey's head is probably a word sign for the personal name.

No. 3 begins with the sign of Neit, see the stele of Merneit (*Royal Tombs*, I, i) followed by *sen-sent*. This word often recurs, sometimes *sen* alone, sometimes duplicated as *sen-sen*. The root meaning is *sen* "brother." Yet as it is not likely that the dead would be called a brother of a god, we must look to a derived meaning. *Sen-sen* is used for "to be united" or "associated"; and, still further derived, *sen* sometimes is used for equality or conformity. We may perhaps best take *sen* as assimilated or conformed to a god, and *sensen* as united to the god in a stronger sense.

No. 4 introduces the pool sign *ba*, familiar in the Ist dynasty in the name of King Merpaba (*Royal Tombs*, I, vi, xxvi). As we shall see later, this occurs as the name of a deity (23). Here it is joined with *hă* "to be behind," to protect, or "back" a person. It may read "Behind is Ba, behind her." Ba may be the Ram-god Ba, who is "over the gods," or Ba lord of Daddu (Osiris), as a ram.

No. 5. The latter conclusion is the more likely, as the ram Ba represents

Osiris lord of Daddu on this cylinder, reading "conformed to Onz Ba," Onz being the name of Osiris at Heb (Behbet) in the Delta. This place is only 16 miles from Daddu (Tmei el-Amdid).

No. 6. Here a fresh form of devotion is given, by *khet* "to follow." It appears to read "Follower of Neit, follower of Hathor (?), Zeded." The animal seems to be different to the Ba, with wide-spread horns, and the twig *renp* between them; it may be a form of the Hathor cow, or rather a cow worship not yet identified with Hathor. The name Zeded, a cake, has the determinative of a turn-over cake following it; such a name is parallel to *tă*, bread loaf, which is a common name, alone or with additions.

No. 7 is like 4, an appeal to the protection of the god, "Neit is behind"; it may be a personal name. The golden-headed vulture *ă*, appears here to be the phonetic complement of *hă*.

No. 8 is a symmetrical arrangement of the title *hen*, priest, twice repeated, with the names of the goddesses Neit and Uazet. That the serpent alone, in this form, was used for the goddess Uazet is shown by the reading of the serpent of the tenth nome of Upper Egypt, discussed in the report of the *Recueil* in our previous number.

No. 9. The plant sign here is read *uaz* by Dr. Sethe. The reading seems to be *Se uaz s Uazet*, "Uazet causes her to flourish." After that there is no evident reading: possibly we might read *zet* the body or being, flourishes because of Neit.

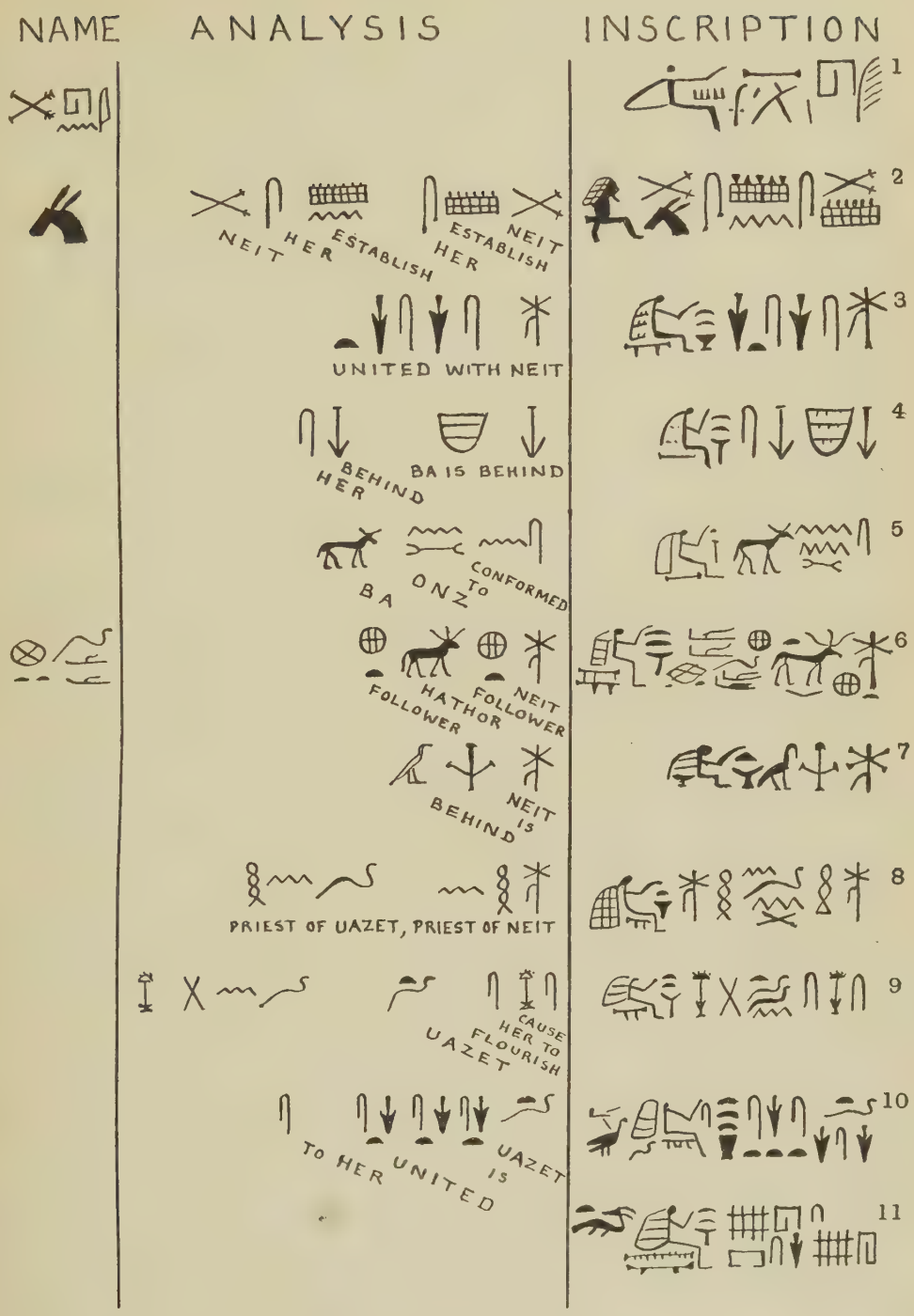
No. 10 reads "United to Uazet," but here *sent* is thrice repeated. Probably there are instances of senseless repetition to fill up a space on cylinders, and this may be such; or even a repetition may be intentional to re-enforce the sense, in a manner which was disused as writing became formalised.

No. 11 does not yield any evident reading. Both 10 and 11 are notable for introducing a bird behind the seated figure; this bird can hardly be dissociated from the next group.

It will be seen how funereal cylinders of this class never contain any titles, but solely declarations of unity or conformity with the gods, or else prayers for protection. This agrees well with the purport suggested by the resemblance to the stele, of benefit and safety in the future life. Only one office is named, and that is a priesthood, which ensured divine protection.

Aăkhu Birds.

The next class of cylinders has a bird in each inscription. From always having two legs, this figure must be intended for a bird, although the head may seem more like a quadruped with horns. In three instances we find this bird on the same cylinder as a seated figure, Nos. 10, 11, 12. In two it succeeds the figure, in one it precedes it. It appears to be thus in the same relation to the rest of the inscription as the seated figure. It is parallel to the position in which the *aăkhu* bird is seen, along with personal names, on the steles of the Ist dynasty. On those steles there are nineteen instances where the bird has the *ka* arms over it in protection, all belonging to the latter half of the Ist dynasty (*Royal Tombs*, I, xxxi, xxxxii; II, xxvii). The only earlier example has the bird alone (*Royal Tombs*, I, xxvi, 70). This indicates that the bird alone is the earlier form, before being combined with the *ka* arms. On the steles there is no instance of the bird turning the head back, which is always the case on the cylinders. Thus it seems that the cylinders belong to a time when the usages that we see in the Ist dynasty were not yet settled. On the later steles the bird always precedes the



CYLINDERS WITH SEATED FIGURES.
The earlier equivalent of the steles with seated figures usual in the historical period.

name, on the earlier it succeeds it. By the analogy of the seated figure it is probable that the bird was regarded as succeeding the name on the cylinders.

From the position, and the resemblances to the use of the *ăăkhu* bird on the early steles, it seems then reasonable to accept these figures are representing the dead by the *ăăkhu* as a glorified one, instead of by a seated figure. At the same

time the difference of attitude, and absence of the *ka* arms, point to these preceding the Ist dynasty. The seated figure and the *aăkhu* type have both been found at Naga ed-Dêr, so the two types do not show an exclusive difference of locality. Nor does there seem any clear difference in style, enough to warrant our dating one type before the other; but there is a difference in subject, as the deities are used exclusively with one type or with the other. The occurrences of names with either type, throughout the whole of these copies, are as follows:—

With Seated Figure.		With *Aăkhu* Bird.	
Neit	14	Sekhmet	3
Uazet	4	Mafdet	1
Ba	4	Anpu	1
Shu (?)	2	The *ka*	4
Hathor (?)	1		
Hen	1		

Though on three cylinders the two types are conjoined, yet curiously enough only one deity is named, and that is Uazet on No. 10 where the seated figure is predominant.

It seems proved, therefore, that these two types belong to two different races with entirely different deities. The seated figure has the Delta deities; the *aăkhu* has the more southern deities, Anpu of the Oases, and Sekhmet of Memphis, Heracleopolis, and Nubia. In historic times the seated figure appears on the earliest steles of the northern capital, while the *aăkhu* appears on the earliest steles of Abydos, thus keeping the same difference of region.

No. 12. This seems to contain only a proper name Ry, inverted in the first case, and then direct. The sign of the mouth is often represented with the teeth (see Nos. 16, 33, 58); here the mouth is seen sideways. The reading is corroborated by the same name occurring on another cylinder, No. 55. This is not likely to read *Shy*, as such a name is unknown, while *Ry* is a usual name.

No. 13. The *sekhem* sceptre can hardly mean anything but the goddess Sekhmet. It is followed by a group *th, th, t,* which we shall deal with in the fourth class where it is repeated as No. 34. The personal name appears to be Peka.

No. 14. Here the *theth* group occurs with the leopard-goddess Mafdet and with At, repeated as No. 40.

No. 15 has the *theth* group with the *ka*; see the repeat No. 32.

No. 16 has only the personal name Ka-re repeated, which is known later on, in the XIXth–XXth dynasties (Lieb., *Dict. Noms*, 642, 986).

No. 17 reads "Anpu causes her to endure," or to be established; the personal name appears to be Set.

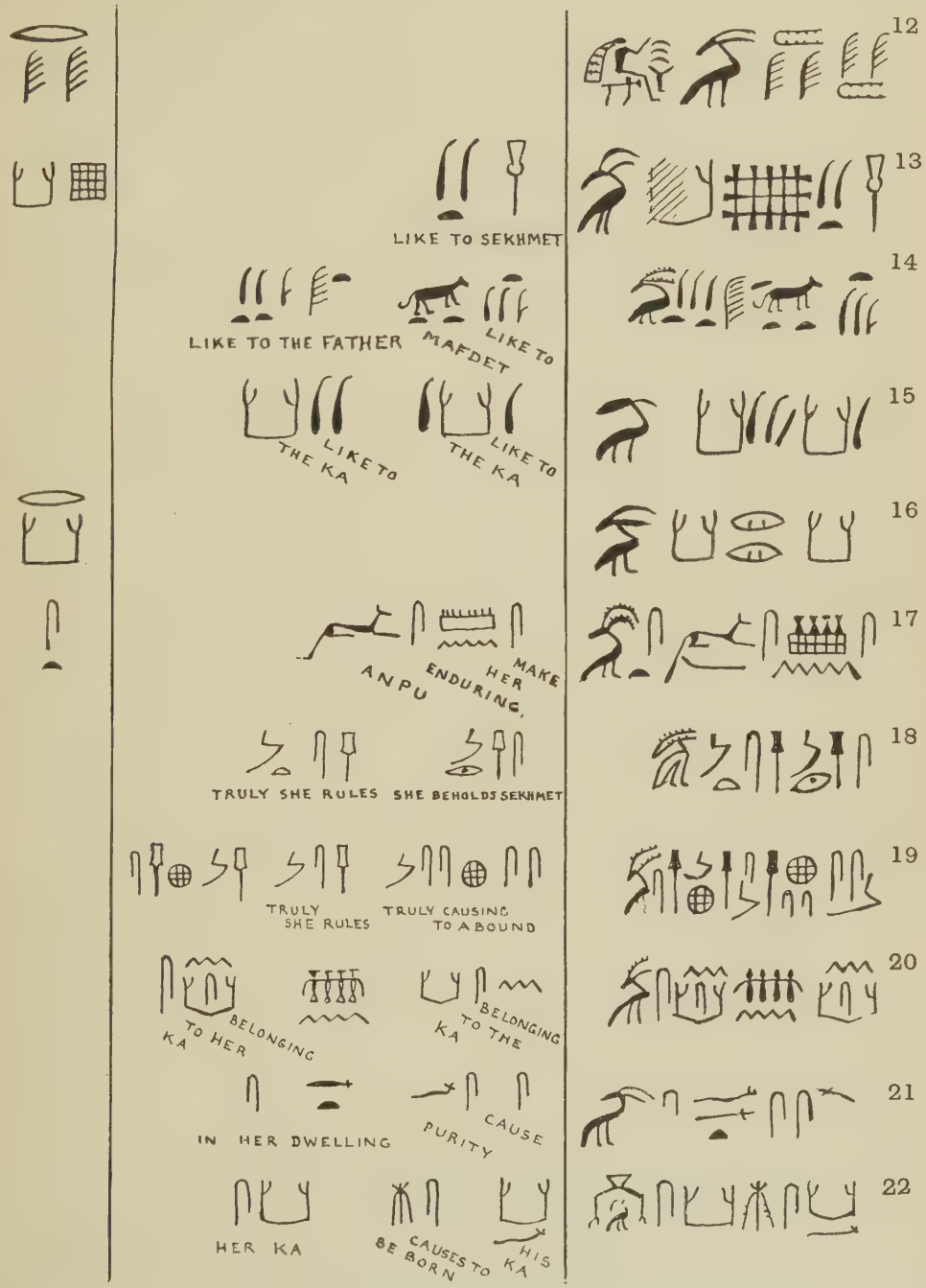
No. 18 seems to be a play upon words, which was a favourite usage in Egypt, *Sekhmet măă, sekhem măot,* "Beholding Sekhmet, truly she rules," or some such construction.

No. 19 is a complex arrangement, probably confused by mere repetitions. *Sekh* to abound, seems to be at the basis of it. Perhaps the phrases are: "Truly causing to abound, truly she rules," followed by repetitions of the signs.

No. 20 apparently brings in *nes,* to belong, "belonging to the ka" and "belonging to her ka," but the function of *khent-n* is not clear.

No. 21. The only suggestion on this is from the word *sef* to purify, used also in the causative *sesef;* possibly this may mean "make pure her dwelling."

No. 22 is a clear reading: "His *ka* causes to be born her *ka*." It is followed by the *ka* embracing the *aăkhu*, this form of the *ka* occurring in the Ist dynasty (*Royal Tombs*, I, seal 86, II, seals 157).



CYLINDERS WITH THE AĂKHU BIRD.

The Bird emblem of the Soul is here used as a determinative as it is upon the earliest steles of the Ist dynasty.

RELIGIOUS FORMULAE.

This class extends also over most of those already noticed, but the two previous classes have been treated separately above in order to show the nature of the formulae which accompany the seated figure and the *aăkhu*.

No. 23 has a clear reading: "Priestess of Ba lord of Her-mer-shet, priest of Ba, priest of Ba, priest of Neit." This place Hermershet is known in the time of Khafra (BRUGSCH, *Geog.*, 185), but spelt then with the hawk instead of the head, and the hoe *mer* for the chisel; the equivalence of these signs in early times is already known.

No. 24 has many repetitions on a large cylinder at Athens. It is another of the favourite plays upon words: *se-aun, se-un sen Neit*, "Cause union, cause existence, conformed to Neit."

No. 25 shews an interesting distinction between *n* as part of a word, and *n* alone as the preposition; the formal and the simplified shape are put in contrast, while the two are contrasted in the reverse manner in No. 29. It appears to read "Excellent god, cause existence for Nefer-ni-ankhti," a name perhaps meaning "The excellence of him who is alive"; it is apparently a proper name, divided by a bar from the rest of the inscription.

No. 26 differs from the others, being engraved on a bone cylinder with a cross pattern. It reads: "Thou art tended (or shepherded) and preserved for ever." The fuller grammatical form, the finished style of the signs, and the different character of the cylinder, point to a later date. Perhaps it belongs to the IInd dynasty.

No. 27 shews a difficulty in the second and third signs; it seems strange to write *d* before *shed* if that is the value intended. Yet, as inversions are often found, it may be possible to render this "God save, God nourish thee." A second sense of *shed* seems suggested by the repetition with different spelling.

No. 28 presents no difficulty, and reads: "Adorer of Hathor, Mera." Though the name is partly broken it can hardly be read otherwise, and Mera, or Mery, is a common name in early times.

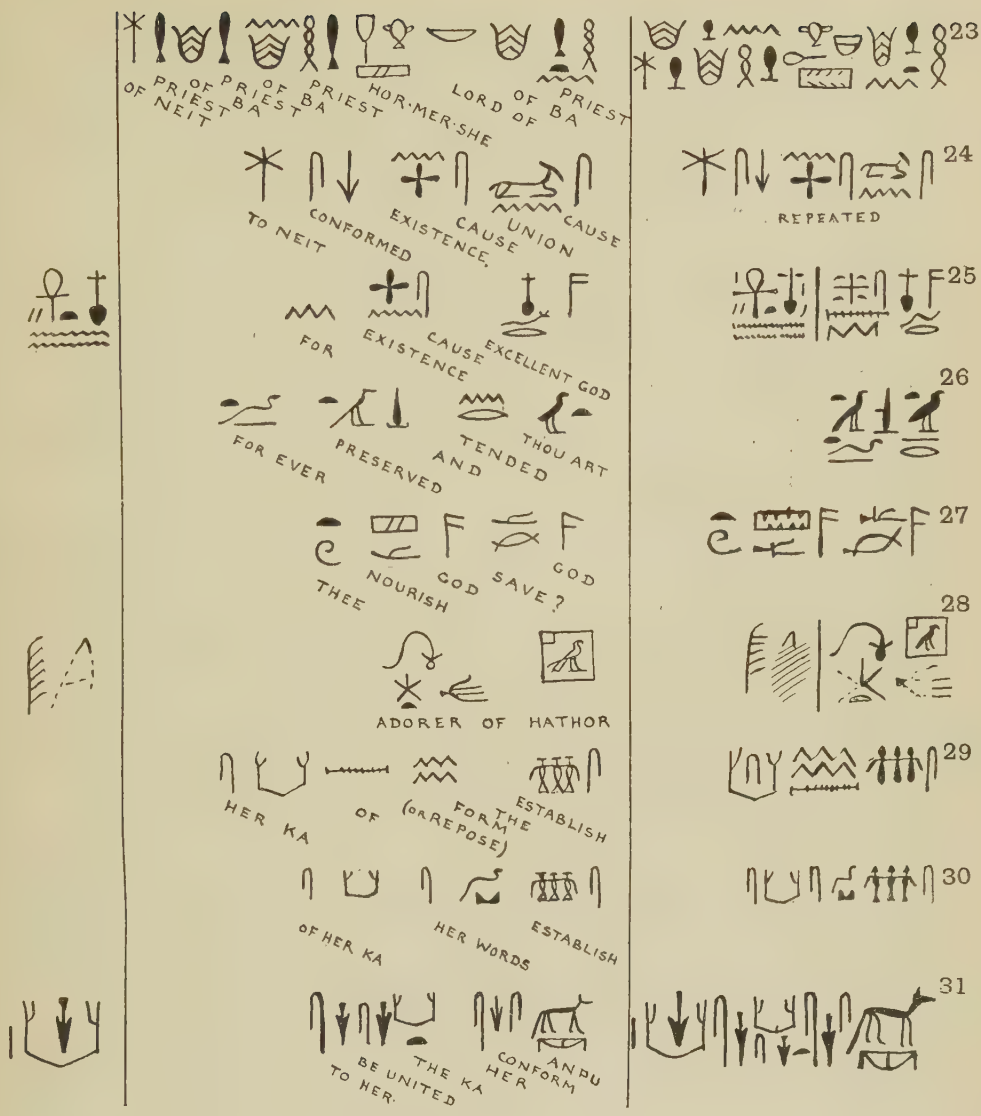
No. 29 appears to use *khent* in the sense of "establish." *Nen* would probably refer to the form or resemblance; but the sense of repose or inaction might be intended. The whole would read "Establish the form (or repose) of her *ka*."

No. 30 is similar in type. *Zedu* is an unusual way of writing "words" or "speech"; but who can say what spellings may have been current so early as this? "Establish her speech of her *ka*" seems a reasonable rendering.

No. 31 seems to be somewhat confused with repetitions. "Anpu conform her" is a possible reading; *Kat sen-sen s* seems to follow, possibly "the *ka* be united to her"; finally, there may be a proper name Senka, followed by a stroke.

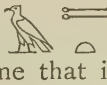
THE THETH FORMULAE.

The frequent recurrence of in connection with the names of gods is one of the main points which requires to be cleared up in this period. With this goes another class of cylinders which have connected with the gods' names. On looking at the two classes 32–44 and 45–54, it is obvious that the *theth* class are all more archaic than the *tet* class. There is no distinction as to the gods named in each class, as there was between the gods of the seated figure and the *ăăkhu*. From the style of the *theth* group being only found in one instance (46) of the *tet* group, it seems clear that *tet* succeeded *theth* in point of time. As they are used in precisely the same way, and we know of *th* in Pyramid Texts becoming *t* later, probably *theth* and *tet* are all one word, in earlier and later forms. *Tet* is the form,



Cylinders with Religious Formulae.

then, which we should look for in the known language. From the connections of the word it may probably be a term of prayer, of devotion, or of a priesthood. A suggestion has been made that *Theth* is used with male deities, *Thethet* with female. This, however, is not the case, as these forms are used in the same proportions with male and female deities.

At first the sense of "nourished," from , or , might seem likely; but the early form of that is stated to be  , though this is not quite conclusive, as is so little used at this time that it only occurs twice on seventy cylinders (*7*, *26*). Another possible root is "image" or "likeness," with the derived senses "to be like" or equal. Also "a part" might be considered. When we see the frequency of *sen* and *sensen*, meaning conformity or union with

the gods, it is evident that such an expression as "like unto" a god would be nearly parallel, and not at all improbable. For the present, therefore, we may render *theth*, and its historical form of *tet*, as "like unto," without prejudice to some other rendering if a closer parallel can be found.

No. 32. Here the signs are separated by the first *ka*, and precede the second *ka*. "Like unto the *ka*" is not an improbable phrase when we recognise the *ka* as the ancestral guardian spirit.

No. 33 reads: "Like unto Neit" with the personal name Ner; compare *nera*, "a man."

No. 34 reads: "Like unto Sekhmet," with the name Peka.

No. 35 is "Like to Neit, like to Shu." The figure of Shu is one of the earliest of any god, occurring often on the IInd dynasty sealings, see in *Royal Tombs*, II, seal 178, with seal 200 proving the *u* bird to be intended, and the feather on the head in seal 199.

No. 36 reads: "Like unto the great Ba, like unto Neit." The form of throne with this figure is not known elsewhere.

No. 37 states the person to be like to Neit and Uazet; at the end of the formula is M which is in the place of a personal name. This suggests that the owl was at that time a syllabic, perhaps *ma* "come!"—a birth name.

No. 38. Here we see "Like to Neit, like to Hen"; the latter should be the name of a god in this position.

No. 39 names Neit and At; the latter is probably *at* "father," and being "like unto the father" would refer to assimilation to the ancestral *ka*. The personal name Nerher, should be compared to the name Ner in No. 33, as there it might be *ner* "man," so here Nerher might mean the "over man," or "man of Horus."

No. 40. Here the dead is stated to be "Like unto Mafdet, like unto At." For Mafdet see *Royal Tombs*, II, 50, pl. vii.

No. 41. This may be a matter of repetition, without varied meaning; but a continuous sense may be intended, somewhat thus:—"Causing love like unto Neit, she loves like Neit." The first figure must be that of the goddess seated, without the table of food offerings. After that comes the name Dy-Neit, "the gift of Neit," and the seated figure of the person with the usual table.

No. 42 reads: "Like unto the gods, causing pleasing by invocation" (*s-kher-nas*), and the same phrase repeated.

No. 43 reads: "Like unto Ba the generator (?), like unto Sekhmet."

No. 44 names a very unusual worship of Hait, "The Shiners," the sun and moon together. "Like under the Shiners, she is united to the Shiners."

The Tet Formulae.

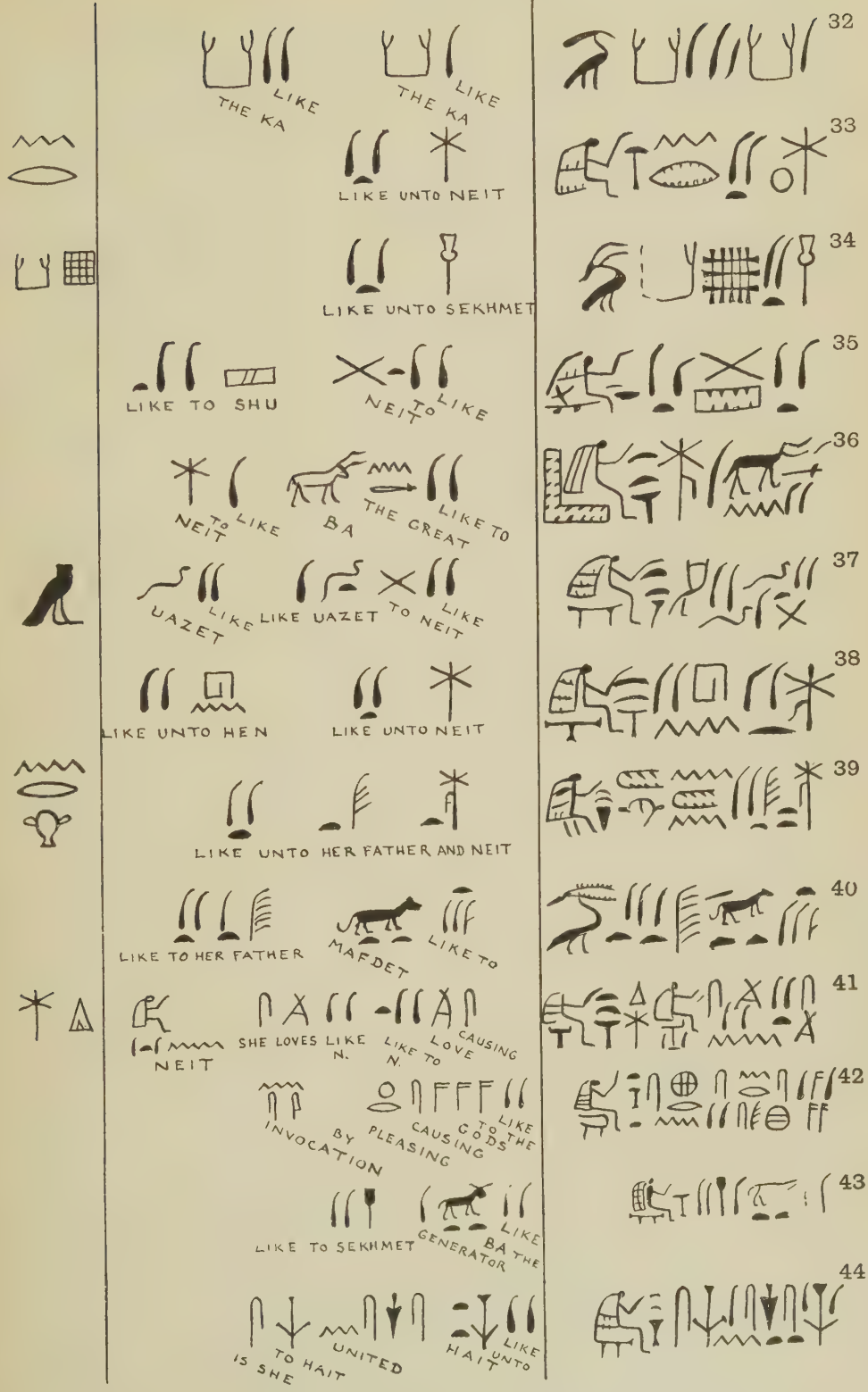
This we have seen to be probably the later—or historical—form of the earlier *theth*, and perhaps best rendered by "like unto."

No. 45 names a series of deities—Hathor, Set, Neit, Horus, and Un "the Being," short for Un-nefer Osiris. To all these the person is stated to be assimilated,—like unto them.

No. 46 reads: "Like unto Shu, like unto Neit."

No. 47 reads: "Like unto Neit," with the personal name Neit-mest-onkh, "Neit bears alive."

We now reach a series of seven cylinders (48–54) with the same formulae, *tet en merut nekhebt*, which may perhaps be rendered "Like unto Nekhebt for love," or "Like to Nekhebt, loving," or "Assimilated by desire of Nekhebt."

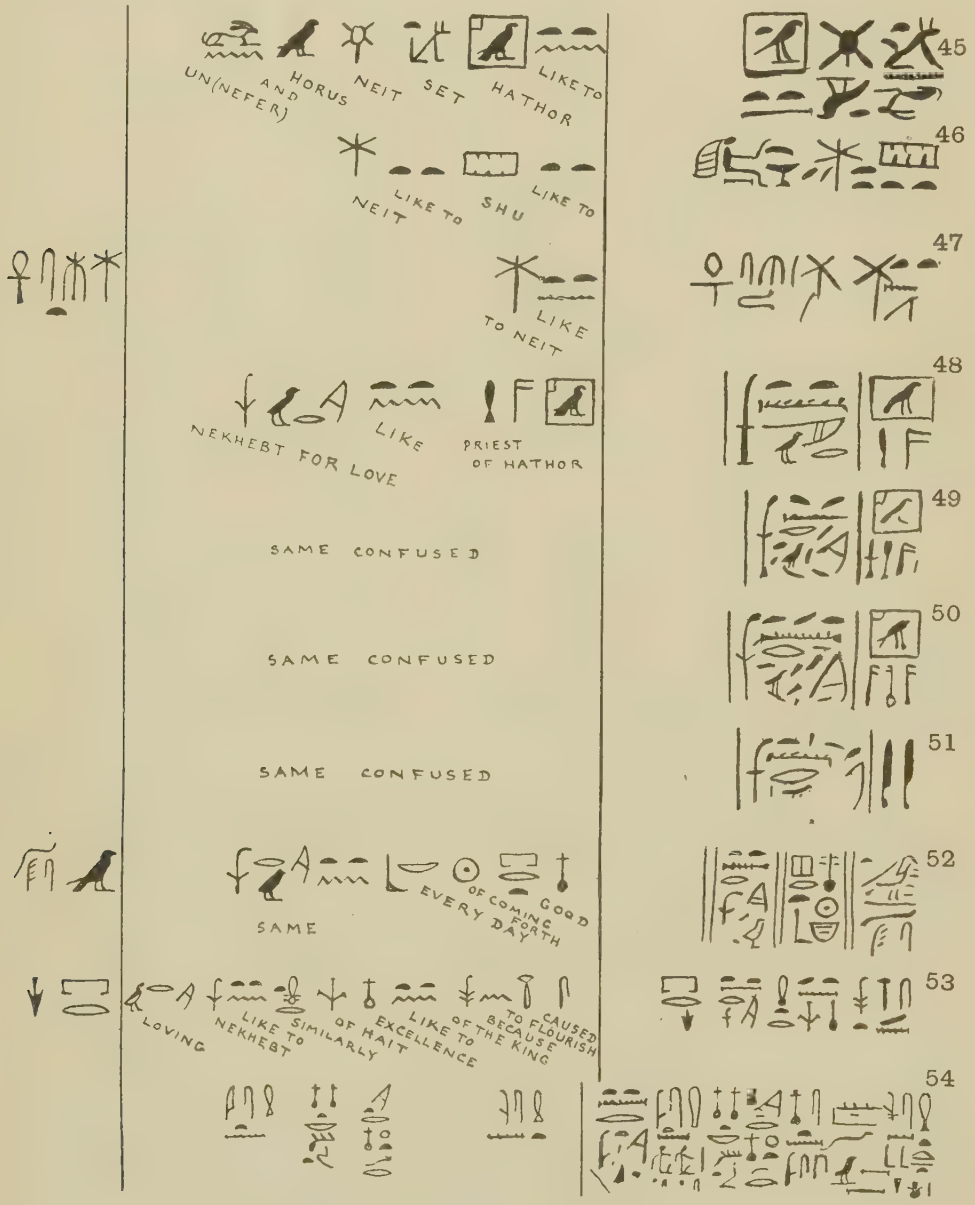


CYLINDERS WITH THE *THETH* FORMULAE
Stating the likeness or similarity to the Gods.

Nos. 48, 49, 50 are all of priests of Hathor.

No. 51 has the personal name Aa or Y.

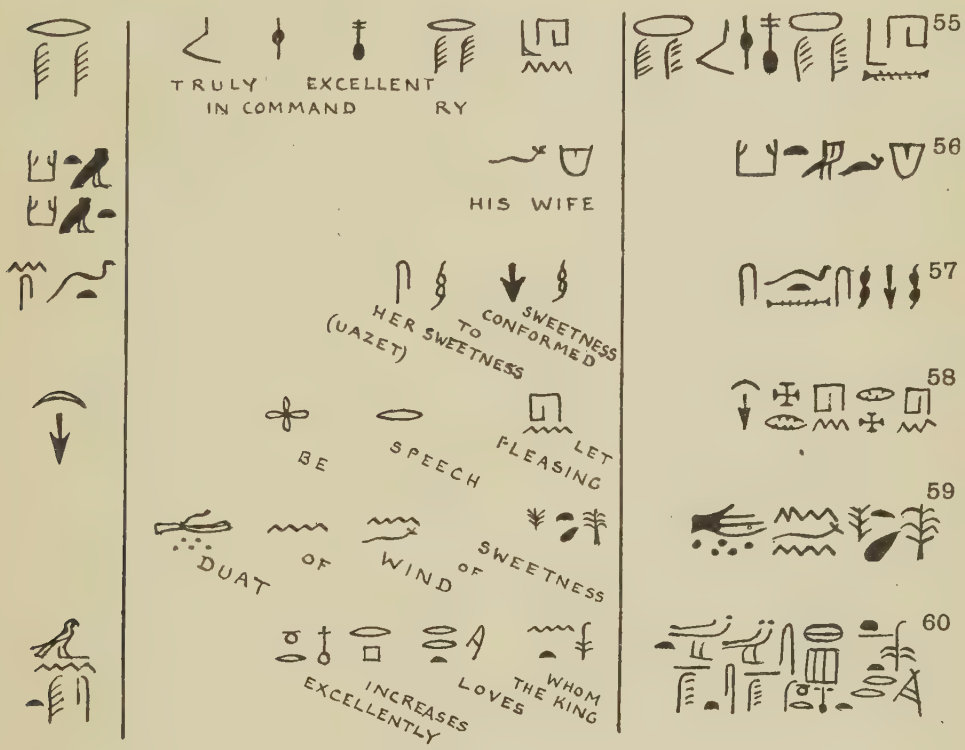
No. 52 may read: "Belonging to Horus, Nefer pert Ra neb (name, 'Good outgoing every day')." Perhaps the division should be different, and the reading "Excellence of coming forth every day, for the assimilated, by love of Nekhebt, Nesa-hor" (name). The phrase *pert ra neb* is equivalent to the *per em heru*, coming forth to-day in the future world.



CYLINDERS WITH THE *TET* FORMULAE.
Later form of the *Theth* formulae.

No. 53 is a more complex example. It may read: "Made to flourish because of the king, like unto the excellence of the shiners (*nefer Hait*), similarly, like unto Nekhebt loving (or by love), Persen (name)." In early writing is used for .

No. 54. This most complex cylinder may be separated into three groups, each beginning *hen sa ten,* or *se nefer ten.* The first group ends with *tet en merut nekhebt,* as above; the last group ends with a personal name, *mert khet nefer* Neferti, devoted to the Lord. Until the more simple inscriptions are cleared up, we cannot hope to deal with the whole of this.



CYLINDERS WITH PHRASES
Complimentary to the deceased person.

PHRASES.

No. 55 begins with a title *hebn* found on sealings from the Royal Tombs (*R.T.*, II, 307–8–13); next is the personal name Ry which we have had before in No. 12; then the phrase *nefer uz mȧot,* "truly excellent in command" (Sethe); lastly, the name again, Ry.

No. 56 is very simple: "His wife, Temka," the name meaning "the perfection of the *ka.*"

No. 57 reads: "Sweetness conformed to her sweetness" (that of Uazet), with the name Nes-uazet, "belonging to Uazet."

No. 58 is a duplicated reading. *Hen* is only known as "pleasing," in literature of the XIXth dynasty, but it may have been in popular use much earlier. If so, this may read: "Let pleasing speech be, Aoh-sen" (name).

No. 59 reads, apparently: *Benert* (with determinative of a date) *nef en Duat* "Sweetness of wind of Duat," a wish for the future life. The Duat is curiously written with the hand as the initial, and then five spots reading *dua.*

No. 60 reads, apparently: "He whom the king loves increases excellently, Hornesa" (name, repeated). The mouth sign is unusual in having the lips closed.

Titles.

An interesting group was found by Dr. Reisner at Naga ed-Dêr, evidently connected together with the public business, Nos. 61 to 64. They all mention the *senti*, plans, of the temple of Neit. As the plan sign is a looped cord, it is most likely that it was derived originally from land measures and surveys, rather than from house plans on a small scale, which would be laid out by a stick measure. No great buildings were erected at this period, as they were in later times when a cord was used at the founding of temples. The plans, therefore, at this early date, were probably of the priestly estates, the landed endowment; for this, our word *survey* is the better rendering. Another word connected is *as*, which appears in *per as*, the office or house of the *as*. This, in such a connection suggests *as* "to measure," or "make a plan," also connected with the derived senses of the Coptic *asou* "reckonings," or the earlier "recompense."

No. 61 might then perhaps read: "Temple of the *ka* of Neit, over the surveys and plans."

No. 62. "Over the temple of the *ka* of Neit, over the surveys of the temple of the *ka*."

No. 63. "Over the office of surveys of Neit's temple of the *ka*, over her temple."

No. 64. "Over (? *her*) surveys of the valley (cemetery?) Her-s-ka (name), the office of plans, Ka-her-s" (name).

In 65 and 66 appears the *unnut* of Neit, perhaps the hour priests of the goddess. *As* here seems as if it must be the phonetic form of ; we cannot say what the orthography should be at such a date. If so, the sense may be—

No. 65. "Place of the hour priest of Neit."

No. 66. "Place of watching of the hour priest of Neit."

No. 67. Here the usual land signs are placed upright, and not sideways as in later writing (see *Royal Tombs*, II, seal 197). The title is repeated, "Lands of Horus (the king) in the Nome of Oxyrhynkhos." The leaping gazelle must be a part of the nome-sign, as it is placed between the *uăs* and the land-sign determinative.

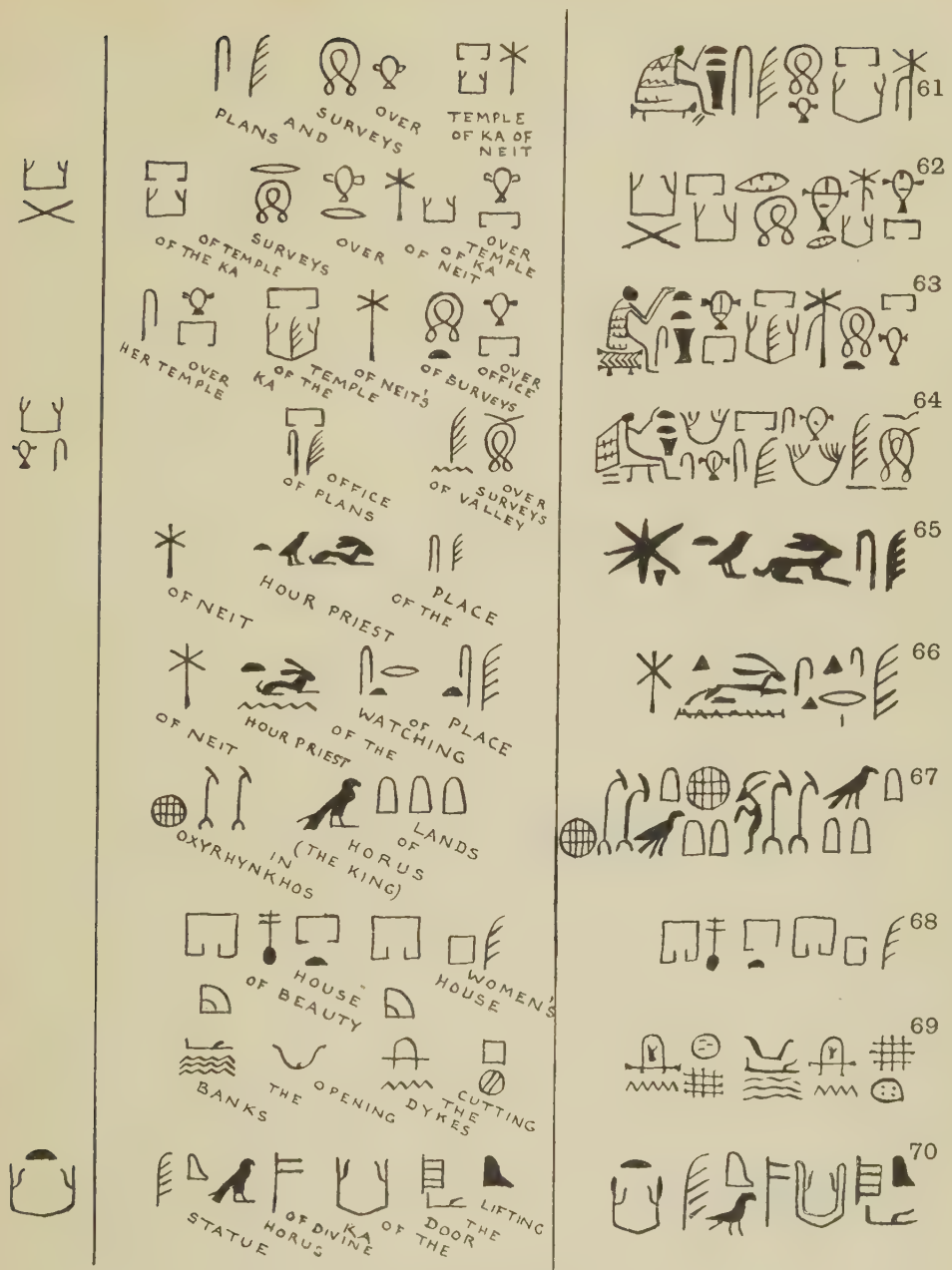
No. 68 is another official seal, that of the *harim*, reading: "The woman's house, the house of beauty." The determinative is not the quadrant building, as in later signs, but an elaborated plan with returns at the entrance.

No. 69 is the seal of the irrigation office: "Cutting the dykes, opening the banks" or dams, the modern *gisr*, see Griffith, *Kahun Papyri*, p. 100.

No. 70 appears rather confused in the structure of the sentence. The first sign *qa*, which in later use is a height or elevation, seems here as if used for an active verb, "to lift," and, as applied to a door, to open: compare the Hebrew simile "Be ye lift up, ye everlasting doors." Or it may be that the arm and hand reads as *d*, so forming *qed*, "to turn round," or turn the door on its hinge. Some such sense is required, by the sign of the door which follows. It seems to read: "Opening of the door of the *ka* statue (*qa*) of the god Horus," or of the statue of the divine *ka* of Horus. The falcon here may be the emblem of the king, and not of the god Horus. This is a large wooden cylinder.

Early Dynastic Cylinders.

We cannot here enter on the wide subject of the sealings of the early dynasties; those being nearly all seals of royal officials and domains, are very different to the


PLANS AND SURVEYS OVER TEMPLE OF KA OF NEIT
61
OF TEMPLE OF THE KA SURVEYS OVER OF NEIT TEMPLE OF KA OVER
62
HER TEMPLE OVER KA OF THE TEMPLE OF NEIT'S OF SURVEYS OVER OFFICE
63
OFFICE OF PLANS OF VALLEY OVER SURVEYS
64
OF NEIT HOUR PRIEST OF THE PLACE
65
OF NEIT HOUR PRIEST OF THE WATCHING OF PLACE
66
OXYRHYNKHOS IN (THE KING) HORUS OF LANDS
67
HOUSE OF BEAUTY HOUSE WOMEN'S
68
BANKS THE OPENING THE DYKES THE CUTTING
69
STATUE OF DIVINE HORUS KA OF THE DOOR THE LIFTING
70

CYLINDERS WITH TITLES.
Earlier in style than the dynastic cylinders with titles.

classes we have hitherto noticed. Five actual cylinders belonging to the Ist or IInd dynasty are here published; they approach the general class of the sealings from Abydos.

No. 71 is the seal of an "Interpreter of (an office) at Senshe." In the name of the office or department we can only read *mă*. The place Senshe is not known. We may note that the *kh* sign never has more than two vertical lines (Nos. 6, 19, 42), sometimes it only has horizontals (Nos. 42, 74), sometimes dots (69). The nome sign has four verticals (67); here a hieroglyph which appears to be a place-sign has three verticals.

No. 72 reads with a play upon the name of the man. "The sealer of the excellent cultivation of crops, Nefertu." For *sezta*, "sealer," see *Royal Tombs*, II, 53. *Renp*, crops, is here written without the *p*, but the growing-plant sign identifies the word. The root is *renen*, young, growing things, and hence plants, flowers, vegetables, or crops in general. The year is called *renpet*, as meaning a season; in fact the reckoning was literally by crops, which were necessarily annual with a sterile period between, owing to the inundation. Apparently the loop *th* is used for the feminine *t* at the end of *renp*. (The rendering of this group in *Mahasna*, p. 20, does not seem applicable here.)

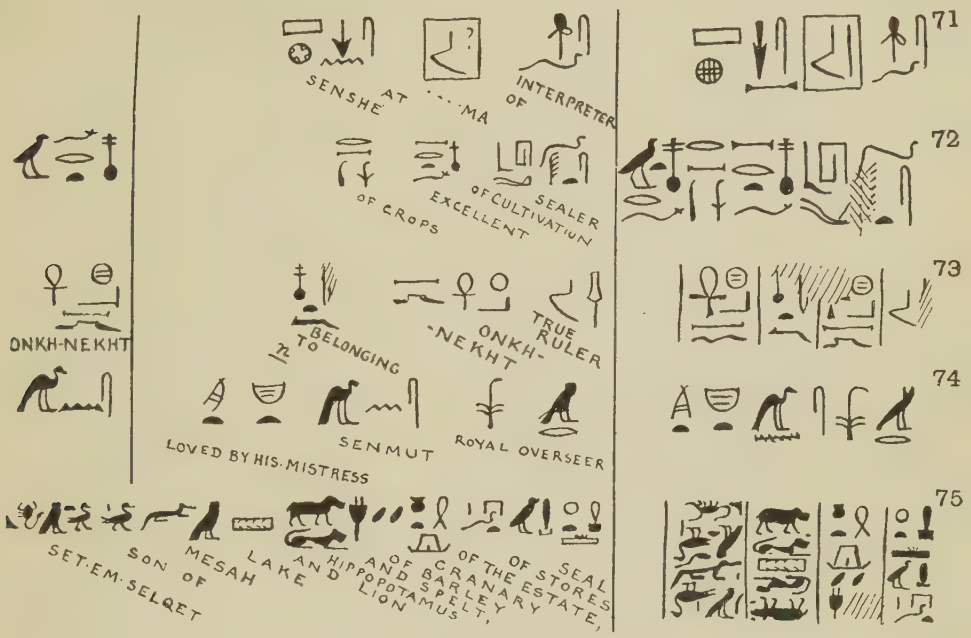
No. 73 is the seal of a man Onkh-nekht, who is described as a "true ruler"; perhaps the *kherp* bearers were a definite peerage, and this was an assertion of a man genuinely belonging to the order. Such a system is suggested by the *kherp* (or *sekhem*) pectoral described on pp. 3–4. He is described also as "belonging to (a goddess)"; the name is defaced, the form of the stick of wood, *khet*, is different from the later sign.

No 74. This cylinder (at Berlin) reads readily, as "Royal overseer, Sen-mut, loved by his mistress," probably he was a steward of the queen. It is curious to see this name, which is so well known in the XVIIIth dynasty, occurring thus early; but with the frequent prayers for *sen* and *sen-sen* of the various gods, it is evidently an early type of name. The title may perhaps be "Overseer of the South."

No. 75 is a large cylinder of white limestone. The reading is simple enough in the first two columns "Seal of the stores of the estate, the granary of barley and spelt." The next two columns are differently understood. Some would see in them only a jumble of noxious animals put there to exert a magic power on anyone who should break the sealing. But it would be difficult then to see why four out of ten should be quite harmless, two geese and two owls. On the other view, the whole of it may have a regular sense. The granary just named was of a district called "the lake of the hippopotamus and lion," a name likely enough in early times, and probably belonging to the Delta. Osiris was worshipped as a lion at Tell Moqdam; Leontopolis was near; the lion was the sacred animal of the Sethroite Nome (DUMICHEN, *Geog. Ins.*, I, lxxvi); and in the Tanite Nome was "the town of the lion." As to the hippopotamus, it abounded in the Delta till Roman times. The name of the lake is therefore likely enough. In the next column are the names Emseh or Mesah "the crocodile," a name familiar later at Siut, in the tomb with the boards of soldiers. The owl *m* is phonetic complement before the crocodile; there is apparently a bent stick *oăm* before the owl, suggesting an earlier reading of *oămseh* for the crocodile. Next, reversing the cylinder, it reads down "son of Săt-em-Selq." For a parallel to this name see Săt-em-Thennu,—the goddess of Erment. Following the scorpion is a sign *q*, which would be out of place in later orthography, as a complement. Here we can only say that it appears to have been so used at this time.

An interesting question is whether the seated figures with very long hair represent men as well as women. There is no instance which fixes the masculine form in these, or the *aăkhu* cylinders, but several feminine constructions, as in 9, 10, 17, 18, 19, 20, 21, 22, 41, 44. It seems probable, therefore, that these long-haired figures are always intended for women. Other feminine cylinders are 29, 30, 31, 56, 57. The masculine examples are 26, 27, 65, 66, 75. There are thus fifteen feminine to five masculine cylinders; and the masculine ones may well be all of a later period than the majority. It seems, then, that cylinders were at first usually for women, and only later became used in official work by men.

We have now endeavoured to show what the construction and general sense of these earliest inscriptions are, by means of comparison and statistical grouping.



EARLY DYNASTIC CYLINDERS
With titles known in the Dynastic period.

Doubtless many of the words will be better understood in future; and, indeed, first attempts on a subject always need much revision. The broad lines of the matter seem, however, to be fairly clear, now that a large number of examples have been studied as a connected whole.

W. M. FLINDERS PETRIE.

FOR RECONSIDERATION.

Onkh-em-măot.

Mummy Wheat.

One of the most frequent questions asked about Egypt is concerning "mummy wheat," reputed to be the produce of wheat, which is stated to have been found with a mummy. From the results of keeping modern wheat we should not expect that any ancient wheat, or other seeds, could germinate. Even three or four years will kill a large number of wheat grains, and ten or twelve years leaves hardly any alive. Hence it is unthinkable that centuries or thousands of years should not destroy the vitality.

When I was at Hawara in the Fayum, twenty-five years ago, I found a great store of corn. It was only late Roman in date; a period from which a large quantity of complex organic matter usually remains, enough to putrefy when wetted. It was not therefore nearly so likely to be sterilised as wheat from earlier ages. There was a large amount, many bushels, so that the oxygen would not act so much on the middle of such a mass as on a small quantity. I took the fullest and finest grains, and planted them next day, so that there should be no time for subsequent changes by exposure. I planted the seeds in rows, in every degree of moisture, from soft mud to merely damp earth, in a sheltered place by a canal. Every possible chance was thus in their favour. There was not a trace of sprouting; and in two or three weeks merely spots of brown decay stained the earth. At the same time I planted some dozens of grape stones, which being hard and woody might be supposed to resist oxidation. The result was equally negative.

It may be asked how the belief in the germination of ancient seeds has arisen; how it can be possible for many reported cases to have been all mistaken. Without knowing every stage of the history of a case it is difficult to see where an error may have crept in. At least we may mention the sources of error in a few cases, which are already traceable. Some unopened mummy coffins were presented to a great personage by Ismail Pasha. On being opened in England some wheat was found inside; it was planted; it grew, and bore seed; so a fresh stock of mummy wheat arose. I heard from a resident in Egypt that he remembered seeing those coffins lying in the stables, with the corn heap run over them. Doubtless some crack, or warp under the lid, allowed grain to slip in, and thus recent grain would be found in a coffin which was yet unopened.

Another source of mistakes springs from the habit of dealers at Thebes making up little pots of corn to sell to tourists. A common little brown pot—quite worthless—has corn put in it, and a lid plastered over it; to be more attractive, the lid is sometimes a scrap of painted cartonnage. Then, shaking the pot, the dealer tells the tourist to listen to the rattle of mummy wheat. It is soon bought, and taken home to plant. A fresh belief in "real mummy wheat" is the result, as the owner is certain that he took it out of a sealed pot himself.

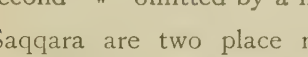
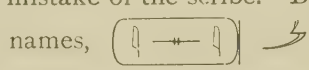
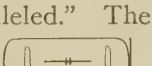
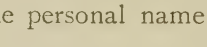
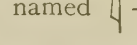
In yet another way errors arise. The late Sir Joseph Hooker told me that when the seeds were recovered from the ancient rubbish of the Laurion mine in Greece, and were exhibited in London, he saw visitors taking up some of the ancient raspberry seeds, and some of the modern seeds which were shown for comparison. After full examination, the hand was just shaken out over the tray again, and the modern seed went among the ancient. When the trials of growth took place, the extraordinary vitality of the seeds in this tray, labelled ancient, astonished the cultivators.

Besides these risks, before the seeds reach the hands that plant them, there is obviously another opening for error. When the master returns with some corn from Egypt, gives an interesting account of the possibilities to his gardener, and hands over the seeds to be planted with the greatest care and every advantage in the greenhouse, it would require a stern moralist to deny him the satisfaction which he fondly anticipates. The appeal may be made to the fact that the growth differs from that of ordinary plants; but unless there are control experiments to prove that it differs from that of any modern seed under the same changed conditions, this evidence is not valid. As a rule these appeals are based on a larger and richer growth of the supposed ancient strain. As in every case it is found that cultivation and selection have greatly improved species in the last two or three thousand years, an unusually fine product is really evidence that the strain must be modern, and the special excellence is due to the kindly circumstances of the advantages given to it by the experimenter.

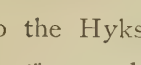
W. M. F. P.

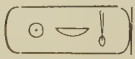
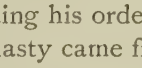
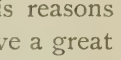
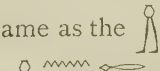
PERIODICALS.

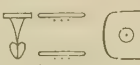
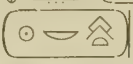
Zeitschrift für Aegyptische Sprache, 50 Band. 1912 (Published, 1913).

SETHE, K.—*Ein übersehener König des alten Reichs.* The king in question is , who has usually been taken to be the same as , with the second —— omitted by a mistake of the scribe. But in the tomb of Ptahhetep at Saqqara are two place names,  and  . "Two similarly named estates of one owner in one and the same place would be unparalleled." The chief evidence for the existence of this king is in the personal-name  , which occurs on a slab belonging to and contemporary with the temple of Ne-user-ra, as the name of one of the court-officials of that king. This shows that the man who bore the name must have been born in or before the reign of Ne-user-ra, and therefore could not have taken his name from Assâ, who was the second in succession after Ne-user-ra. As to the date of this new king, there are only two places in which he can occur, (1) at the end of the IVth dynasty, amongst the kings whose names are imperfectly known, or (2) as one of the immediate predecessors of Ne-user-ra, between him and Nefer-ar-kă-ra Kă-kă-a, who reigned so short a time that hardly any traces of him remain. The position is fairly well fixed by the personal name  of a priest of the VIth dynasty; for it is hardly possible that a man should take the name of a half-forgotten king unless he were born in that king's reign. Therefore a man who died in the VIth dynasty might well have been born in the reign of an immediate predecessor of Ne-user-ra. In the tomb of the Vizier Uăsh-ptah, in the reign of Neferarkăra, a high official is named  ; he is the father or near relative of the vizier, whose son has the same name. It is possible that one of these two may have usurped the throne.

Über dem Gebrauch der Königsnamen in Namenzusammensetzungen im alten Reich. This is an appendix to the foregoing paper. It shows that the Egyptians had in the Old Kingdom a definite rule for the use of the king's cartouche-names in place- and personal-names. The throne-name was used for places, the personal-name for persons. There are two exceptions to this rule as regards place-names, the throne- and personal-names of Pepy I and Assa being used indifferently; but only one exception as regards personal-names, Pepy I's throne- and personal-names being again used indifferently. By applying this rule it becomes clear that six kings of the Vth and VIth dynasties had only one name each for both cartouches. These six kings are: Userkaf, Sahura, Nefer-ef-ra, Unas, Teta, and Aty.

BURCHARDT, MAX.—*Zur Rassengehörigkeit der Hyksos.* In the only two places where the Egyptians have thought it worth while to give an exact designation to the Hyksos, they are called  , *āamu*, and , *mntïu styt*, that is they considered them among the peoples whom we call Semitic. E. Meyer pronounces against the view that the Hyksos came from Asia Minor, and joined themselves with the Hittites who overthrew the Babylonian empire, he also acknowledges that the names which appear non-Semitic have not yet been found in Asia Minor. But of the non-Egyptian names which remain to us from the period of the foreign occupation, seven out of nine can be proved to be Western Semitic. From this proportion of Semitic names it is very evident that the core of the Hyksos was Semitic. Therefore Asia Minor cannot be looked upon as the original home of the Hyksos, but rather Syria, particularly Arabia. We have here a migration of Semitic peoples which bears the same relation to the Asia Minor-North-Syrian movement as the migration of the Germanic peoples bore to the Huns.

NAVILLE, EDOUARD.—*La XI^e dynastie* (with 1 illustration). This is a review of the reasons for retaining the order of the kings of the XIth dynasty which Dr. Naville has already put forward. M. Gauthier has accepted this order in his "Livre des Rois," but Dr. von Bissing proposes a new arrangement. According to the evidence of the temple at Deir el-Bahri, there are two kings, each having the same personal name, but whose throne-names, though pronounced the same, are differently written. These are  and . The latter name occurs only in the shrines of the princesses, which could not have been built till the temple was already in existence. That the reading *ḫpt* for is correct is shown by the two eyes and the lotus blossom which are represented in the carefully detailed examples of this sign; measurements of the oar in the cartouche show that the length of the handle and the width of the blade are, with one exception, constant, while the oar which reads *kheru* is irregular in size; nor can the sign read *khem* as the oar which is so vocalised is always represented diagonally and with a rope attached. The Horus titles of the two kings differ: and . As to the Table of Kings at Karnak, the reason for the omissions are still to seek. Did Thothmes wish to honour all kings who had done something for Thebes, who were buried there, or who had erected some building however small? It would seem that the list mentions only kings who were really kings, or who were considered as such. It is noteworthy that the kings of this period always mention the name of their mothers, rarely that of the father, indicating perhaps that they obtained the succession through the mother. Mentuhetep I is called , "the ancestor." It is suggested that this name was given at a later date, to distinguish this king from his successors of the same name. Before recapitulating his order of the kings, Dr. Naville gives his reasons for believing that this dynasty came from Coptos, and that the kings gave a great impetus to the cult of the Theban gods, Mentu and Amon. The order of the kings then is: Antef I, who was  , and who is probably the same as the  of the stele of Drah abu'l Negga; Antef II, who is also called  , who is

represented on his stela with his dogs; Antef III is the son of Antef II, and is also called Antef-āa; Mentu-hetep I, whose Horus-name means the ancestor; Mentuhetep II,  , who built the temple at Deir el-Bahri; Mentuhetep III,  ; Mentuhetep IV, whose inscriptions are found at Hammamât; Mentuhetep V, who made an expedition to Punt. Besides these, there are other Antefs and Mentuheteps, who either were not kings or belong to a succeeding dynasty. The king , discovered by Mr. Weigall, though perhaps belonging to this dynasty, has as yet been found only in Nubia; as it is uncertain whether Nubia was under the rule of the XIth dynasty kings, it seems probable that this newly discovered king belongs to the XIIIth dynasty.

Plaumann, Gerhard.—*Die demotischen und die griechischen Eponymendatierungen.* Owing to the misunderstandings and mistakes, which are more common in the demotic than in the Greek records, it is obvious that, when the demotic and the Greek do not agree, reliance is to be placed on the Greek. This is particularly the case in the difficult question of Eupator in the order of the Ptolemies as given in the title of the priest of Alexander. The reason being that the demotic was here merely a translation of the Greek. This is shown by the fact that, where in Greek there was a genitive, it has been translated by a genitive into demotic, though the Egyptian would have grammatically required a nominative. Again, in the list of priestesses and in formulae of dates, a glance at the Greek original shows the mistakes of the demotic translator.

Spiegelberg, Wilhelm.—*Die demotische Inschrift auf der Statue von Rhodes.* (2 illustrations.) The statue is of a standing man, who from the remains of the headdress, is certainly a king. Equally certainly it is a statue of the Ptolemaic period made in Egypt. The head, feet and one arm are lost. On the pilaster at the back is a demotic inscription: "Before Osiris-Apis, the great god, and Isis, the great goddess. Dionysios, the man of Iasos." As it is quite unknown that a private person should dedicate a statue of his sovereign in the temple, one is driven to the conclusion that this Dionysios, who represents himself as a Pharaoh, was one of those Egyptian rulers of whom we hear in the Ptolemaic annals. From the fact that the name is given without titles, he would appear to have been a prominent man. Diodorus (XXXI, 15a) mentions a Διονύσιος ὁ καλούμενος Πετοσοράπις, who raised an insurrection in the Delta, and possessed so much power that he might well consider himself the ruler of Egypt. From the inscription the statue represents a Karian of Iassos; and it is possible that he was a Karian leader of mercenaries in the service of the Ptolemies, who had by degrees arrived at a position when he dared to attempt to seize the crown.

Spiegelberg, Wilhelm.—*Aus der Strassburger Sammlung demotischer Ostraka.* (3 illustrations. A continuation of a paper published, *A.Z.*, 1911.) No. 5. A fragment of a vocabulary, giving a list of the names of parts of the face. It is probably part of a much longer list of names of parts of the body. It dates from the Ptolemaic period.

No. 6. A protocol of Ptolemy IV Philopator. The dating supplements and is supplemented by the demotic Pap. Hauswaldt 17. The Louvre papyrus published by Boudier, which is dated four or perhaps eight months earlier than Pap. Hauswaldt 17, shows that the name of the priest of Ptolemais was the same in both.

No. 7. A quittance for taxes paid for the sacred crocodile. Though single words here and there are doubtful, the tenor of the document is quite clear. Pechytes has paid in the year 32, twenty *artaba* of wheat for the crocodile in advance for the year 33, the quittance is to show that in the year 33 no further demand can be made upon him. As the Ostrakon comes from Thebes, the Theban crocodile is meant, not the crocodile of the Fayum. The document dates from the second half of the Ptolemaic era.

SPIEGELBERG, WILHELM. *Zwei Kalksteinplatten mit demotischen Texten.* (2 plates.) Pl. I. Bought in Luqsor, said to have come from the Theban cemetery; it is dated to the first part of the Ptolemaic dynasty. This is a writing-exercise, or a rough copy, containing the beginnings of several stories. Lines 1–5 are perhaps an oracle by dream, in which a man appears to the king in a dream and upbraids him with neglecting the gods. Lines 6–8 are from an entirely different story. Possibly the original writing had been washed off this part, and the blank space thus obtained had been re-used. In lines 9–10 is found the beginning of a legend of Osiris, who "went to the place of fighting."

Pl. II. Found by Legrain in Karnak. It is dated between the years 204–180 B.C. Though in the form of a letter, it is probably only an exercise. Its sole interest lies in the mention of the rarely-mentioned king, Harmachis, who reigned in the time of Ptolemy Epiphanes. For his position see the paper reported on pp. 40 and 41 of this journal.

SPIEGELBERG, WILHELM.—*Denkstein einer Kultgenossenschaft in Dendera aus der Zeit der Augustus.* (4 illustrations.) This stele was found at Dendereh by *sebakhin*, though the exact spot is not known. It represents a king offering to Hathor, Horus and Nekhbet, all three deities being in animal form; and was dedicated by the great *kenbet* of the god Harsamtus, in remembrance of their restoration of the forecourt of Isis. The word "'te" is discussed, and, from the instances occurring on mummy-labels, it appears to be a title, though not a priestly title. It is suggested that it may be an office in the *kenbet*.

SPIEGELBERG, WILHELM. *Hieroglyphisch - demotische Mumienetiketten.* (1 plate, 3 illustrations.) Hitherto only one mummy-label written in hieroglyphs has been known; two more are published here, which were obtained at Luqsor.

No. 1. On the obverse is the hieroglyphic inscription with the demotic below, reading "Kolanthes the younger, son of Chrates." On the reverse is a semi-obliterated line of hieroglyphs.

No. 2. A long narrow strip of wood, painted at one end like a miniature obelisk. On the obverse is a vertical inscription in hieroglyphs; an invocation to the goddesses for food for "Te-shere-[n]-pete-Min, daughter of Te-shere-[n]-pete-Min. May Hathor give thee bread. May Menket give thee beer. May Heset give thee milk." On the reverse a horizontal line of hieroglyphs, and at the end three horizontal lines of demotic repeat the name of the woman and her mother.

SPIEGELBERG, WILHELM. *Ein demotischer Grabstein der römischer Kaiserzeit.* (Plate.) The scene represents the deceased being led by Anubis into the presence of Osiris. The inscription appears to be the speech of Anubis.

(*To be continued.*)

REVIEWS.

The Voice of Africa.—By LEO FROBENIUS. 2 vols., 8vo, 682 pp., 70 plates, 200 figures. 28*s.* No Index. 1913. (Hutchinson.)

This is an important book as giving a general summary of the German Anthropological Expedition of 1910–12 in Nigeria. The author organised his work most ably, getting agents to collect information in far-distant districts, especially from exiles who would more readily give it. His care was to reach the ideas of the people and their concealed beliefs; and the value of the objects he collected was immensely increased by his use of them to bring out the thoughts and memories of the natives, with whom he incessantly conversed about them. A certain tone of self-centred satisfaction, and obliviousness of other points of view, may raise a doubt whether he had quite the humble insinuation which brings out confidences. But nothing less than his "push" would have covered so much ground, and gained such results. He cordially thanks the British authorities in many places, for the official help and personal kindness that he met with; yet there was a bad time at Ilife, where the old trouble of people selling what was not entirely their own, led to his being held up by the English, to let the people resume their old possessions. The anthropologist naturally regrets that things which were little valued by natives, and entirely neglected by the English, were turned back again into the great limbo of the unknown, perhaps never to be seen again; yet acquisitiveness must be judicious. Now for the African archaeology.

The discoveries made show that there was a considerable artistic civilisation somewhere between 1,000 and 3,000 years ago, and that the present West African is much degraded below the former status. The principal objects—according to the illustrations—are the heads in terra-cotta, and especially a large one in bronze. They are obviously native in feature, lips and jaws being identical with the modern Yoruban character (see plates pp. 48, 312). The work is excellent, quite natural, full of feeling, and without any mere conventions. No bodies are known belonging to these heads, nor is any definite meaning attached to them. In every respect they are extremely close to the pottery heads from the foreign quarter at Memphis; if any of them had been found there they would—though larger—have been accepted as all of the same class. The Memphite work cannot have come from the Niger, it is too closely in touch with Persia and India; but the idea, and even the workmen, may have come from Egypt to West Africa. The work of the fifth century B.C. may be the source; but nothing so late as the Roman Age. Here there is, then, an indication of date for the early civilisation. Was it an outlier of the Ethiopian Kingdom, like some other sites?

Besides the heads there were other figures, mainly of animals, carved in hard stone, such as granite and quartz. The figures published show that these are thick and heavy, without the artistic ability seen in the heads. Much glazed pottery was also found; and large jars, supposed by some to have been crucibles for melting glass. One piece of sculpture of a figure (p. 311, 2) is obviously a copy of Roman work of about the second century.

The situation of these remains is in old city sites. The ground has been extensively trenched about by the natives in search of valuables, and the mound of ruins is in some places over twenty feet deep. Though the Expedition did some excavating, there is no sense of levels or stratification shown in the record. It is evident that a good amount of careful excavation of successive levels is required to reach historical results as to the culture. Until such systematic work is undertaken, the less anyone digs the better. A Niger Museum ought to be formed, as near as may be to the main source of antiquities, and the native encouraged to feel that it honours him, and that he can look on it as his own, with all reverence for its contents. Then there might be but little trouble in getting at all the priceless ancient work, which is still looked on as sacred.

Another main line of influence was due to Christian Nubia. This is shown by artistic influence, and by traditions, largely collected by the author. The Gothic interlacing patterns, which infected the Roman work in the mosaic of the second century, and in the architecture of the sixth century, were carried by the Christian expansion of the Justinian Age far into Africa. They are found more fully preserved on the Niger than even in Coptic work, and are excellently shown on plates, pp. 624, 634, 636; but, strong as this influence is, it would have been wholly incapable of such work as the terra-cotta heads, —they belong to the Perso–Greek civilisation.

It is melancholy reading how the cemeteries of all North Africa are being ransacked for stone beads, to send to the market at Bida, where they are repolished for modern use (p. 444).

The modern industries are illustrated, both the factories of bronze, iron, glass, and beads, and also specimens of work (458, 464). These show an instructive mixture of influences, African squat globular forms, and Perso-Arab spouted pots; with patterns of Greek honeysuckle and egg-and-tongue, misnamed as strangely and ignorantly as in our terms.

The author divides the religious history into four strata: (1) Ancestor-worship. (2) Shamanism. (3) Social Cosmogony. (4) Islam. He has the fullest respect for the strength and value of the true African culture, and social basis of life, of

Terra-cotta heads from Nigeria, about fifth century B.C.

which he tells much that is admirable, and essential to a civilisation of such a climate and people. It is only the degraded, and, worst of all, the Europeanised African, that is the unwholesome creature which requires a hard hand.

The historical theories of the author do not detract from the value of his solid work, even if we cannot accept them. He looks to Etruria as the source of the civilisation, passing by sea through the Straits of Gibraltar; he emphasises that the culture is entirely littoral, and not at one with Central Africa. Some features show a link through Morocco, such as the water collection from roofs, and the form of the bow. The hand-loom is linked with the *togo* dress, which is practically the toga. The foot-loom on the contrary is Asiatic; it comes later in Africa, and goes with the made-up tunic. The fascination of a great name leads him to see in this Nigerian culture the Atlantis; and a perfervid, half mystic, vague mode of expression, which breaks out in many parts, leaves the reader at a loss how much to discount from more sober pages. The various matters which throw light on Egyptian customs, we hope to deal with in the next part of this journal. A weeding of much that only relates to the recorder's feelings, would have left room for what we want to know further about his collections on the customs and physical life of the people. There is no reference to measurements or photographs of the people for comparative study. We must be thankful, however, to have obtained so much light on the past of Nigeria, lamentably neglected by the British administration.

Art in Egypt. By Sir G. Maspero. Small 8vo, 313 pp., 565 illustrations, 4 coloured plates. 6s. (Heinemann and Hachette.)

Histoire de la Civilisation egyptienne. By Gustave Jéquier. Small 8vo, 330 pp., 257 illustrations. 3·50 frs. (Payot, Paris.)

Die Kultur des alten Ägypten. Prof. F. W. Freiherr v. Bissing. Small 8vo, 87 pp., 58 figures. 1·25 marks. (Quelle and Meyer, Leipzig.)

The Continent has awakened to the need of popular education on Egypt; no longer is the art and learning to be reserved for costly works, and its spread to be looked on as a profanation; it is to be compactly reduced to a form where it may rank along with a dozen other subjects in general culture. More than a quarter of a century ago, when it was remarked to Lanzone that a little book was wanted on Egypt, he replied: "A thousand little books are wanted," but he never wrote one. Now here we have three little books, very different in treatment and idea, and we can best value them by their contrasts.

Each of these books must be regarded in proportion to its cost. The German publisher gives plenty for the price, but the two French publishers more than double the scale of generosity. We must not expect the same liberty of scope to the author in books so different in their claims.

Sir Gaston Maspero's book is a great work, which a generation ago would have been produced exactly twice the size in every dimension and accordingly eight times the price, without giving us any more material. The abundance of illustrations all suffer in Hachette's Series on Art from being too small; though this is somewhat compensated by the fineness of the screen (180) which enables a magnifier to be used with good result. The fulness of material is treated with the author's accustomed skill; and the masterly ease with which he conveys his impressions and fixes a picture in the reader's mind, recalls his previous great works. The geniality of expression lightens many pages, as when we read that

"several who belonged to the priesthood insisted on being reproduced in all the splendour of their sacred insignia, and have gained nothing by the process." Again we read "towards the close of the second Theban Age there was a semi-popular art, marked by a variety of aspect and a freedom of technique very disconcerting to those who still hold the immobility of the Egyptian civilisation as an article of belief." All through the work we find the fulness of ideas and of feeling for the sentiment of the art, which will help the readers to see far more than they would ever observe for themselves.

Each great period is treated separately, the Thinite Ist–IIIrd dynasty, Memphite IVth–Xth, Middle Kingdom or First Theban Age, Second Theban Age XVIIIth–XXIst, and Saite carried down to Roman pottery figures. The perception of style is not aided, however, by mixing with the Ist dynasty nearly as many illustrations belonging to subsequent periods; they put the eyes out for grasping what is really characteristic, almost as badly as the binder's insertion of a rampantly-coloured plate of the XXIst dynasty in the middle of the Pyramid art. The printer has also been very unkind in shifting on the description, as much as ten pages divorced from the illustrations, so that the reader has to go back over more than twenty figures to find what is described.

Some of the dicta are surprising, and may, we hope, be reconsidered for the next edition. The stele of King Zet, or more correctly Uaz (for such is the reading of the serpent in the Xth Nome) is more than half attributed by its style to Sety I; but the hawk upon it could havoc all the tame hawks of Sety into mincemeat. Enamels are spoken of in the Dahshur jewellery, which is entirely of inlays. The Meydum Pyramid is stated to be a natural hill, whereas it is all built down to below the pavement level. The temple of Sety at Abydos is stated to be partly in the hill, while there is no hill near it. The English work is kindly referred to in the text, but has suffered in the illustrations. Fig. 14 is not the plan of Bêt Khallaf by Garstang, but the tomb of Qa at Abydos, planned by H. Flinders Petrie. Fig. 17 is by Green, not Quibell. Fig. 108 is from Paget and Pirie, Pl. XXXVI. Fig. 194, "after Champollion," is from *Beni Hasan*, I, XXVII. Figs. 277, 290, are unacknowledged from Petrie's *Tell el Amarna*. Figs. 334, 388, 476, are all taken unacknowledged from Petrie's *Arts and Crafts*, a book which never appears in the very full bibliographies, though other works, two years later, are inserted. Such are the spots on the sun.

In Prof. Jéquier's work we meet with a refreshing aim. "Hitherto the tendency of certain works has been to insist on the general character, to seek to present a homogeneous whole more than the differences between periods . . . The aim of this little book is to counteract these erroneous ideas, and to study successively all the main stages of the Egyptian civilisation." To this end the chapters are clearly arranged in periods, systematically treating the history, monuments, and civilisation of each period. The work is admirably analysed in tables, unfortunately all placed at the end; it has a long and full table of contents, complete list of the 264 illustrations; an ample bibliography, classified under some two dozen divisions; and a full index. The aid of material arrangement is most helpful, and gratifying after the lack of such necessary construction in other books.

The illustrations are happily larger than Hachette's, but less fine (screen 150). They are scrupulously correct as to their sources, and well chosen for variety. The text is clear and careful in its expression; though one misses the touches of *esprit* which lighten the pages of the previous work. One may hope that the author will reconsider a few matters. The paintings of the pre-historic boats might be

thought safely settled to be such after publishing the Hierakonpolis paintings, which show the great steering-oar, with the steersman holding it; the interpretation as a village seems entirely forced and impossible. The tying-up rope is also shown hanging in front; and on a vase (ANCIENT EGYPT, p. 34) are men punting with long poles pushed from the shoulders. The division into two periods of first and second prehistoric civilisation is not noted, although the distinctions between the two are very marked. The Elamite connection of the dynastic invaders is dismissed in favour of a Nubian origin; but the very close resemblance of the style of animal figures on the cylinder-seals from Susa and Abydos cannot be ignored in this way. The African affinities—which are numerous—may all be due to the earlier people, or to the Sudany invasion of the IIIrd dynasty. Sneferu should surely be put in the end of the IIIrd dynasty; and the XIIth dynasty figure 175 is of the deceased, and not an ushabti slave figure. Fig. 215 is certainly not Apries, and, by the style of the group of sculptures to which it belongs, cannot be attributed to the Saite Period. Such matters are but small, and the whole style of the work and its arrangement may we hope render the view of the changing civilisations familiar to French readers, and be followed with advantage on this side of the Channel.

Freiherr von Bissing's work is of a very different character to the others. The structure of society and the literature are what he seeks to impress on the German reader, 60 pages out of 84 being given to these heads. Probably no one west of the Rhine would respect the shell of officialism so much, but administration is sweet to the Teuton, and the author wisely knows how to meet his taste. As the book covers more ground than the others, though it is shorter, it necessarily treats subjects more in outline. The account of the literature is, however, very full in proportion, hardly any well-known writings being passed over. We might have hoped that the author of the most magnificent publication of the art would have treated it more fully in a handbook, but probably the inexorable publisher would not illustrate it. A welcome feature of the illustrations given is that nearly half are from the collection of the author, and therefore are of new material not already familiar.

Museum of Fine Arts Bulletin, 66. Nov. 1913. 14 pp., 22 figs. 10 cents. Boston.

Occasionally a welcome outline of some of Dr. Reisner's work appears in the bi-monthly *Bulletin* from Boston; in the lack of any more satisfying record of this great mass of work, we may be thankful for such a publication. This number contains the account of clearing a group of family tombs at Gizeh, one of which was quite untouched. These were of three generations of architects, who lived under Assa, Unas, Teta, Pepy I and Pepy II, the close of the Vth and first half of the VIth dynasty. The persons were: Anta Snezem-ab under Assa, Mehy and Khum-enta under Unas and Teta, Nekhebuău under Pepy I, and Im-thepy under Pepy II.

The tomb of Anta contained a granite sarcophagus; it had been plundered, but the body lay complete. In pits of offerings near by, were limestone cases for meat offerings, copper tools and models, and a beautiful diorite cup inscribed with the name of Teta, showing the date of the burial.

In the court of Nekhebuău were many inscribed and sculptured stones which could be refitted. These give biographical details of his employment over various public works. He was six years directing great works in Heliopolis, and rose to

be chief architect. He also went to Sinai, where he left an inscription of his expedition at Maghareh.

The latest of these tombs was undisturbed. The sloping passage was blocked up solid with twenty-five feet length of stone. After breaking and withdrawing this, the burial was found perfect. Outside of the long box coffin lay a pile of copper models of tables, with little vases on them, and many copper bowls and libation vases with long spouts. It is a most valuable series for dating the types of the latter part of the VIth dynasty. Inside the coffin lay the body, badly mummified, with an alabaster head-rest, two alabaster jars, a copper mirror, and a deep collar of bead work of gold and faience beads. In the ruins of a chapel was found a wooden statue, of good work, well preserved.

Das grab des Ti.—By GEORG STEINDORFF. 4to, 12 pp., 143 phot. plates, 20 drawn plates. 1913. (Hinrichs, Leipzig.)

This magnificent volume at last rewards us for waiting half-a-century for the publication of the most celebrated of the great tombs of Saqqareh. It is worthily reproduced, and Prof. Steindorff is to be congratulated on the clearness and good effect of this grand series of photographs of the whole walls, in this immense picture-book of early Egyptian life. He has judiciously taken a white paper, which much increases the visibility of detail beyond that of the other large issues of tombs, such as Kaqemni and the Rue de Tombeaux. There is something still to be gained by a yet whiter and denser paper. We hope that a second volume will give us the other facilities that appeared in the "Mastaba of Kaqemni"; there is yet lacking the outline key drawings to the walls, the enlarged drawings of details, and the discussion and translation of the short inscriptions which are so generally neglected.

Archaeology of the Old Testament. By Dr. EDOUARD NAVILLE. 8vo, 212 pp. 5*s*. 1913. (Robt. Scott.)

The essential thesis of this book is that the greater part of the Old Testament was written in cuneiform character, until it was translated into Aramaic by Ezra. The principal reason assigned for this view is the prevalence of cuneiform writing in Palestine, shown by the Tell Amarna letters, and the tablets found at Taanach and Gezer which refer to ordinary business. All of these, however, belong to the Canaanite population, and when we look at the Jewish and kindred people we see the Siloam inscription showing a long past of cursive writing, the Sumerian ostraka, the long inscription of Mesha, and the still earlier cursive writing at Serabit. It is true the Canaanite habit may have been to use cuneiform, yet Prof. Naville seems to attach too little importance to the examples of writing of the Semitic races. His view is the older one of the prevalence of a pure Phoenician script from which other alphabets are a degradation; and he does not treat alphabetic writing on the same basis which he rightly insists upon for language—namely, that the varieties and dialects are all of equal human value, although one may have become a literary standard.

It is difficult to see how the origination of Genesis and other writings in short separate documents, is an evidence for cuneiform writing rather than alphabetic or hieratic; or why Moses should be supposed to have been taught cuneiform in Egypt, rather than the all-prevalent hieratic, which was in use among all classes down to the common workman.

Matters where there will be a more general agreement with the author are his outline of the Exodus movement, his excellent connection of "the land of Egypt as

thou goest unto Zoar" with the fertile Delta unto Zar the eastern frontier town, and his deduction about the worship from the Aswan papyri long before any possible influence of Ezra and the Babylonian party. Though this work is primarily concerned with the Palestinian writings, it touches Egypt so largely that it claims our attention here.

The Ancient History of the Near East.—By H. R. HALL. 8vo, 602 pp., 33 plates, 14 maps. 15*s.* 1913. (Methuen.)

The purpose of this volume is to widen the view of the University scholar, and give him a direct acquaintance with that greater world, which he first learns something about from Herodotus. For this purpose it opens with a general survey of the position of modern study, and then develops the pre-historic Greek world, to break in the student to the idea of remote ages. After this it is allowable to launch fully into Egyptian and Babylonian history, taking them together in three main periods, early, middle and late. The Hittite, Syrian, and Palestine history also come in for full notice, so that the student will be fairly set on his feet as to all the changes of the near East before the Hellenic age.

There are, of course, many points on which the author has to take one side of a disputed position; and in most of these he represents the more moderate and reasonable view. Musri is taken as being Egypt. The long reigns and importance of the Hyksos are not suppressed, as has been fashionable lately. Manetho is respected as a careful writer, though sometimes in error, and often corrupted. The treatment of the Amarna letters strongly leans to accepting the Khabiri as Hebrews, and the Exodus is put in the expulsion of the Hyksos. This, however, ignores the place-name Raamses in Exodus, and the record of four centuries of oppression. It seems more likely that there was a partial exodus along with the Hyksos, the Hebrews perhaps appearing as the Khabiri, and the Israel of Merneptah; while the Exodus record refers to the remainder of the Israelites leaving under the XIXth dynasty. It is unfortunate that the chronology concordantly recorded by the Turin papyrus, Manetho, and Herodotus is rejected solely on grounds of style, which have no value in proving periods of time. Definite records cannot be treated so lightly. It is a little curious that the long labours of the Research Account and British School are entirely omitted, while reciting single volumes of various other writers on excavations.

As a whole the book is of great value in putting a complex mass of synchronous history into an accessible form, and not ignoring differences of opinion where such uncertainties occur.

Les Inscriptions hiéroglyphiques et hiératiques du Ouâdi Hammâmât.—By J. COUYAT and P. MONTET (Mem. Inst. Fran. Arch. Orient). 4to, 119 pp. (plates to appear in 2nd volume).

This volume opens with a general account of the inscriptions of each great period. Some interesting lists of peculiar orthography are given. The inscriptions left by the various quarrying parties, on the rocks, are then transcribed, in their geographical order, 266 in all, with notes and some discussion. It would have been most desirable to state the nature of the rock on which each is inscribed, and the nature of the rock in the nearest quarry, as a guide to the localities of the stones used in each period.

An interesting question, which has not been touched on by the authors, is that of the seasonal dates of the inscriptions, as showing at what times of year the

quarry expeditions worked. We shall here follow the dating in "Historical Studies"; and as the Egyptians' chronology and that of Berlin differ by an entire Sothîs period, the seasons would be the same on either chronology. The following are the dated inscriptions :—

Page.	King.	Year.	Month.	Day.	Season.
97	Aty	1	4	2	... August 14
74	Pepy I	18	11	27	... April 1
79	Mentuhotep II...	2	2	15	... End of February
97	„ ...	2	2	23	... „
98	„ ...	2	2	25	... „
81	Sankhkara ...	8	9	3	... July 6
85	Senusert I ...	16	3	—	... Jan. 22–Feb. 22
64	„ ...	38	4	4	... February 21
72	Senusert II ...	11	4	8	... February 14
49	Senusert III ...	14	4	16	... February 15
48	Amenemhat III	2	3	1	... December 27
70	„	3	3	13	... January 9
51	„	19	5	15	... March 7
47	„	20	3	13	... January 5
112	Ramessu IV ...	2	2	2	... July 1
108	„ ...	3	9	26	... February 18
108	„ ...	3	10	—	... Feb. 23–Mar. 23
41	Darius I ...	26	10	10	... October 24
67	„ ...	26	12	—	... Nov. 13–Dec. 13
100	„ ...	27	3	—	... Feb. 14–Mar. 16
87	„ ...	28	9	11	... August 25
96–7	„ ...	30	8	15	... July 30
52	Xerxes	2	1	19	... January 4
43	Nekhtnebf ...	3	4	—	... Feb. 16–Mar. 16

It appears that there were two quarrying seasons; the main one between December 13 and April 1 (15 examples), the lesser one between July 1 and October 24 (6 examples). The main season was for convenience of the work in the cool weather; the lesser season when labour was at liberty during the inundation. The hot season work was more usual in late times.

Amulets, Illustrated by the Egyptian Collection in University College, London.— By W. M. FLINDERS PETRIE. 4to, 58 pp., 47 photo. plates, 7 drawn plates. 21*s.* (Constable.)

(Where books are in any way connected with the British School, a brief summary of such will be given without any opinions.)

This begins with a discussion of the principles of the use of amulets, and their meaning. The Egyptian amulets are divided into five classes: Similars which resemble the parts of the body to be protected; Amulets of Powers which are emblems of abstract powers; Amulets of Property, which imitate the offerings for the dead; Protective Amulets for defending the person or the mummy; Amulets of gods, human or animal.

Each of the 275 different kinds of amulet is then described, arranged in these successive classes. First is stated the ancient name; then the meaning of the amulet; the period of use; a list of the examples photographed; a list of all published examples of the materials used; the positions known on the mummy;

lastly, the number of examples in published collections. This book thus summarises what is known on the subject of each amulet, beside describing the specimens at University College, which has the most complete collection.

The plates contain full-size photographs of about 1,700 amulets, also copies of two ancient lists of amulets, drawings of the largest gnostic amulet, and plans of the positions of amulets on twenty-four mummies. It is intended to follow this volume with others, similarly discussing various branches of Egyptian antiquities.

Paganism and Christianity in Egypt.—By P. D. SCOTT-MONCRIEFF. 8vo, 225 pp. *6s.* (Cambridge University Press.)

This is a valuable handbook, collecting and discussing material from very different sources, though not adding new facts. The chapters deal with the late phases of Egyptian religion, the Christian literature of the early centuries, Christian mummifying and burials, the very debatable amount of Christian influence on sculpture, a summary of the Gnostic books, and an outline of the rise of monasticism. The lamented death of the author has left the close of the work incomplete, but what we have here will serve as a guide book to students, and a sufficient outline for the general reader.

In some directions there are unfortunate omissions. The Hermetic books are never mentioned; yet with their internal dating to the Persian age, they give a priceless view of the spread of ideas, symbols and expressions, in pre-Christian times. Christianity is hardly credited before 180 A.D. in Egypt: but it is impossible, with the strongly Jewish Delta close to Palestine, that it should not have received Christianity as early as Antioch, 42 A.D., and long before there was a body of Christians martyred in Rome in 64 A.D. The certain introduction of Medians under the Persian rule into the Mediterranean area is ignored. The connection of Osiris with corn is classed as being only of late date; but the distribution of the cities where the corn-festival took place points to its being prehistoric, before the nome system was completed.

Synthetic Studies in Scripture.—By W. SHAW CALDECOTT. Crown 8vo. 181 pp. *2s. 6d.* (Scott.)

It is unfortunate that anyone at the present day should confuse readers by statements in defiance of fundamental documents, known for half a century. To state that "Shepherd kings belonged to the XVIIth and XVIIIth dynasties," and proceed to treat Akhenaten and all his ancestors as Hyksos, is directly contradicted by the expulsion of the Hyksos under Aohmes, and all the tenor of his successors. To state that "there are few subjects such as high priests, royal nurses, court dwarfs, and the like, who are not known by several personal appellations" is quite untrue, and is invented to identify Joseph with Amenhetep, son of Hapy. The census lists of Numbers are cut down to a tenth without any trace of evidence, and regardless of the strong internal evidence that the hundreds are independent of the misunderstood thousands. The suggestions of this writer need to be tested by a wider reading and judgment.

NOTES AND NEWS.

GREAT changes are in progress among the staff of the Antiquity Department in Egypt. Brugsch Pasha, whose service dates from the days of Mariette, has now retired; he will be succeeded in the curatorship of the Cairo Museum by Mr. J. E. Quibell, who worked for some years with the Egyptian Research Account. Mr. Weigall, who is at present Inspector-General of Antiquities in Cairo, will retire after the coming summer; his seven or eight years' service in Upper Egypt having made too much strain on his health. Mr. Cecil Firth has been appointed as Inspector at Luqsor, but will be transferred to succeed Mr. Quibell at Saqqareh. M. Daressy has been transferred from the curatorship of the upper floor of the Museum to the administrative position of Controller. Above all this looms the impending retirement of the master-mind: Sir Gaston Maspero will probably before long leave his Directorship, which he first entered on thirty-four years ago.

Decorations in Egyptology are almost unknown, but the Emperor of Austria has conferred on Mr. Weigall the Cross of the Order of Franz-Joseph, for services to science.

Mr. Quibell is concluding his Saqqareh work before entering on the Museum duties. He has lately found a coffin with boats and model workshops, of the Middle Kingdom period.

Dr. Reisner's programme this year includes work at the Gizeh Pyramid cemetery with Mr. Howe all the season; work at El-Bersheh for the latter part of the season by Mr. West; excavations at Sêsi (Delgo) in Halfa Province in the first months of the year by Dr. Reisner; also work by Mr. West early in the season at Kerma in Dongola Province. Mr. Clarence Fisher, well known from his plans of Nippur, has returned to America for museum work, but will be back in Egypt by April.

From Antinoe Mr. J. de M. Johnson writes: "After several years of excavation for papyrus cartonnage the Graeco-Roman branch of the Egypt Exploration Fund has this year again turned its attention to the Roman Period in undertaking work on the rubbish mounds of Antinoe. It is difficult at present to estimate the value of the results. The mounds are without any top layers of Arabic, and are uniformly dry to the ground level. On the other hand the necessary strata of *âfsh* are scarce, and papyrus when found tends to be extremely brittle and decayed."

From Prof. Naville's work at Abydos all detailed statements are reserved for the present.

At Lisht Mr. Mace has cleared a large area south of the pyramid of Amenemhat; he has found numberless pits, mostly of the close of the XIIth dynasty, and parts of mastabas which were pulled to pieces during the later Empire. The water level is a difficulty in the larger pits, and pumping is requisite.

At Thebes the great work of Mr. Robert Mond on the tombs is progressing in the hands of Mr. Mackay. He has photographed the tomb of Queen Nefertari, and is repairing the tombs of the Engravers (181), of Dedy (200), of Kha-em-hat (57) where casts of the missing parts now at Berlin are being inserted, and the fine tomb of Menna (69). Also tombs 111 and 139 have had the walls treated, and the open tombs at Drah abul Negga are being tended.

At Aswan Prof. Schiaparelli is clearing tombs on the western side. One tomb which he has opened was rifled in Ptolemaic times; the rock staircase of another tomb is being cleared, and may lead to a fine monument; this is just below the Coptic monastery.

Prof. Steindorff is working at Ibrim in Nubia before taking up Hawara later in the season.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

OUR Founder, Mrs. Sefton-Jones, informs me that many of the branches of this Association have enlarged their bounds considerably during the last two years. The Local Honorary Secretaries are much to be congratulated on the results of their labours. In many of the centres, the members are real students, and require very little help in providing material for their meetings; others, however, need considerable assistance, which is always gladly given from headquarters. One very popular series of papers sent round, during last winter, dealt with "Domestic Life in Ancient Egypt," comprising sculpture, painting, arts and crafts, architecture (religious and domestic), and dress. Another, almost equally sought after, was on "The Foreign Neighbours of Egypt," Syrians, Cretans, Hittites, etc. A very small minority of branches have suffered from temporary diminution, or eclipse; for the most part, they are gradually growing larger. Some desire to keep a fixed limit of membership, as the members meet in a private drawing room; others are actively promoting increase of membership. All are furthering the interests they have at heart, by serious pursuance of the subject under various aspects, and the standard attained in papers and lectures has distinctly risen in the last few years.

The papers for the present season are given below, in continuation of our list in the January number.

LONDON. (Hon. Sec., Mrs. Sefton-Jones, 18, Bedford Square, W.C.)—Meetings, monthly. At 8 p.m., tea and coffee, 8.30 p.m., lecture. March 26, lecturer, J. G. Milne. April 23, Mrs. Aitken, on "The Development of Egyptian Art." May 20, or other Wednesday afternoon, at University College, 3 p.m., Prof. Flinders Petrie's lantern-lecture on this season's New Discoveries.

BOURNEMOUTH. (Miss Horn, Canford Cliffs.)—Feb. 11, 3.15 p.m. (tea, 4.15 p.m.) at Royal Bath Hotel (Mrs. Johnson), paper on "Period of Pyramid Builders"; history and art of IIIrd–VIth dynasties. March 11, 3.15 p.m. (tea, 4.15 p.m.) at Sherstone Cottage, Branksome Park (Mrs. Naesmyth Webb), paper on "Period of Pyramid Builders."

EDINBURGH. (Mrs. Melville, 16, Carlton Street.)—Dec. 18, 3 p.m., Prof. Kennedy, D.D., on "Israel in Egypt." Jan. 30, Mrs. Aitken, on "The Development of Egyptian Art." Feb. 28, Prof. Stevenson, D.Litt., on "A Story-teller of Fifth Century B.C."

FARNHAM. (D. Hill Cook, Serendah, Firgrove Hill.)—Jan. (?), lecturer J. G. Milne.

GLASGOW. (Miss Bruce Murray, 17, University Gardens.)—March (?), Evening meeting.

GLOUCESTER. (Miss Ellis, 10, Alexandra Road.)—Papers read at meetings, and distribution of Journal.

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Jan. 12, Dr. Spanton, on "The Egyptian Water Lily." March and April, two more lectures.

REIGATE. (Mrs. Paul, Hilton Lodge.)—Jan. 27, Miss L. Eckenstein on "Mummies," also Feb. 23, on "Amulets," also March 24, on "Dress, Religious and Secular."

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.)—Dec. 31, 3 p.m. (Mrs. Cobbold) Mrs. Sefton-Jones' paper on "Recent Excavations" read: Jan. 28, 3 p.m. (Mrs. Schomberg) Historical Course continued, IVth–VIth dynasties. Feb. 25, Meeting (Mrs. Gray). A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

TINTAGEL. (Mrs. Harris, St. Piran's.)—Jan. 5, paper on "Early dynasties and Pyramids." Feb. 2, Lecture on XIIth dynasty given, and Flinders Petrie's letter from Illahun read. March or April, Prehistoric. April or May, paper on 1913 Exhibition of British School.

MANCHESTER. EGYPTIAN AND ORIENTAL SOCIETY. (Miss W. M. Crompton, The University.)—Open meetings at University. Jan. 14, 8 p.m., T. Eric Peet, on "Sinai as known to the Egyptians." Feb. (?) H. R. Hall, on "Greek Monasteries." Feb. 24, Prof. Lehmann-Haupt, on "Tigranokerta Re-discovered" (not open). March 10, Prof. A. Dickie, on "The Origin and Development of Building amongst the Jews." April 25, A. M. Blackman, on "The Painted Tombs at Meir." May (?), W. Burton, on "Egyptian Glazed Ware."

HILDA FLINDERS PETRIE.

THE TOMB OF MENNA.

THIS tomb is one of the best preserved at Thebes, owing to its not having been exposed to modern ravages. It was found in the work of Mr. Robert Mond, who has done so much for the safety and care of these tombs, hitherto so strangely neglected by the Government and the Societies that have worked at Thebes. The painted

WIFE AND CHILDREN OF MENNA IN A BOAT.

chapels at the southern capital are hardly secondary in value and interest to the great sculptured chapels of Saqqareh.

In the frontispiece is a harvest scene which shows how the Egyptian could grasp actions in his memory, and reproduce them like a Japanese; for we cannot suppose that he got models to pose for all these lively little groups in action. The Egyptian always cut off the ears of corn close, and left the straw to be pulled up afterwards whole and sound. The two men are carrying off a net full of ears to be threshed. Below them amid the standing straw are two girls fighting. The right-hand one (A) has evidently been kneeling down to gather up the ears that she has gleaned; the other girl (B) has run forward to dispute her right to them, and B has seized the wrist of A with her right hand, and clutched the hair of A in her left, A retaliates as well as she can by seizing B's hair in her right. So far A is checked, but B cannot do anything, and is worsted in the matter of hair-grip. There the squabble has waited for three thousand years.

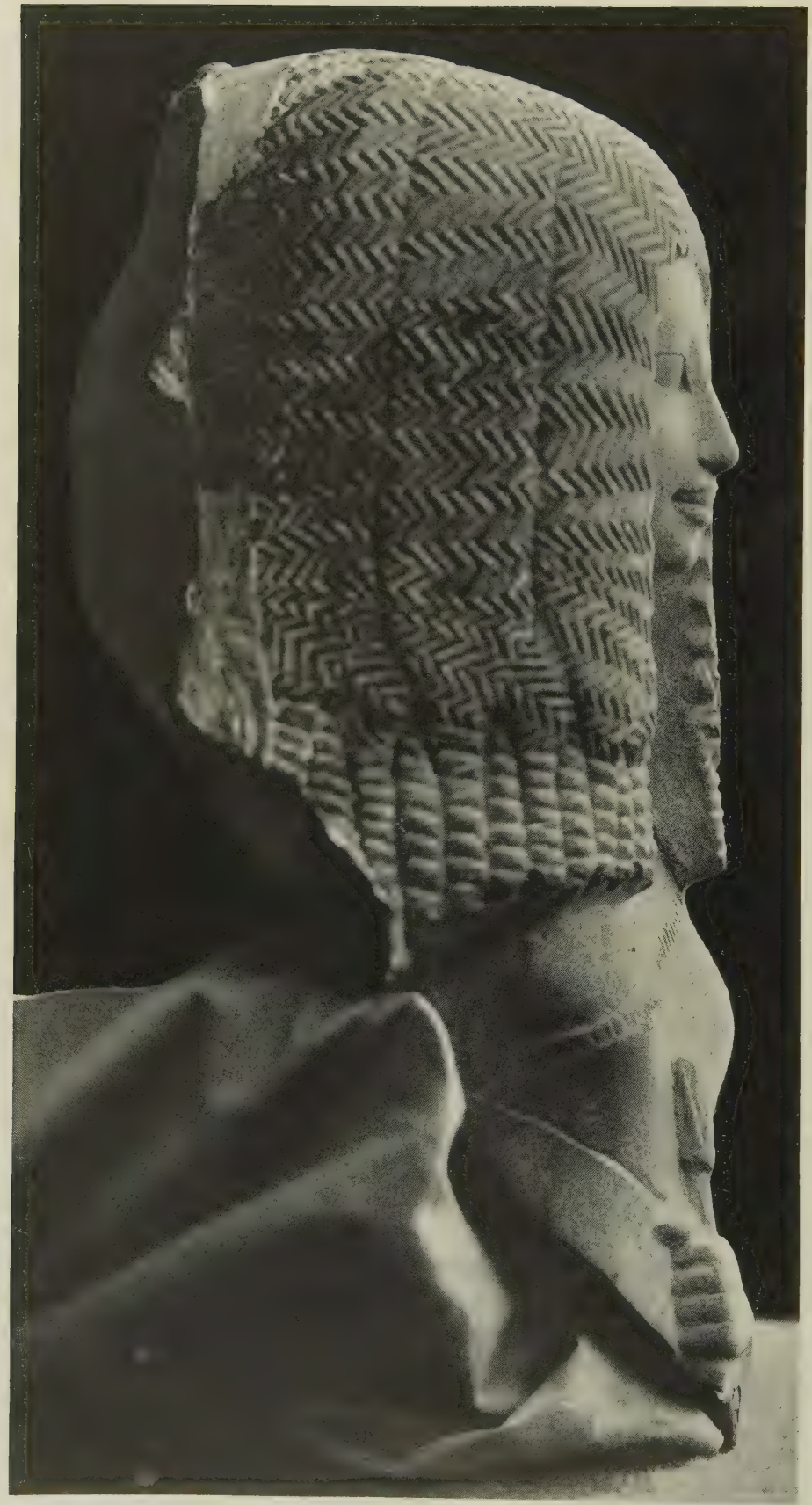
Beyond is a sycomore fig tree, which casts its thick shadow, and bears its tough fruit close to its branches. A boy is sitting at rest on a stool, while another boy plays on a long pipe, like a modern *zammareh*, not a flute blown sideways, as has been described. Over his head hangs a water skin, hung up in the cool shade to evaporate, and give a cold drink; observe that the neck is tied back separately, so that it should be loosened to get a drink, without shifting the skin. It is a curious sign of the comfort of the times that boys out in the harvest field have well-carpentered stools to sit upon, and do not lounge as best they can; certainly no modern Egyptian would think of such a luxury.

In the lower scene are two more little gleaners. One has a thorn in her foot; so she has seated herself on her gleaning bag, and stretches out her leg for her companion to remove the thorn. The friend's gleaning bag lies on the ground between them, just such a bag of coarse fibre as is commonly found in the period of the New Kingdom. A boy is stripping the heads off flax stems by pulling them through a forked stick fastened to the ground. The general well-being of the people is seen by the gleaning girls—the poorest people—wearing a long *malás* down to the ankles. The boys and men naturally only wear the usual waist-cloth. Both the men and one of the boys, however, have the leather net over it, made of slit leather work, to take the wear of sitting and rubbing about.

On the previous page is a part of a scene of the wife and daughters in a boat with Menna, drawn with perfectly unfaltering and even lines. Below, the ducks flutter and quack in the lotus pool as the boat advances; and one of the girls leans over the side to pick the lotus buds as they pass.

It was in the clearance of this tomb that a charming statuette was found, two views of which are here given as the Portraits of this quarterly part. On comparing the profile with that of the wife in the boat scene, it is so precisely like that we must see in this figure the wife of Menna. Why is her face perfectly preserved while not a trace of her husband's statue is to be found? The state of the tomb shows that there was a special spite against him. His throwstick in the picture is cut in two; his figure viewing the estate has the eye gouged out that he may not see; the measuring rope for his fields has the knots scraped away; his hand in spearing the fish is destroyed. Yet there was no ill-will to his gracious wife, her face and figure remain on the wall and in the statuette. For the photographs of the figure we are indebted to Mr. Mond, as also for the cast of the figure (which is now in the Cairo Museum), from which the portrait on the cover is taken. The tomb scenes I photographed in 1909.

W. M. F. P.

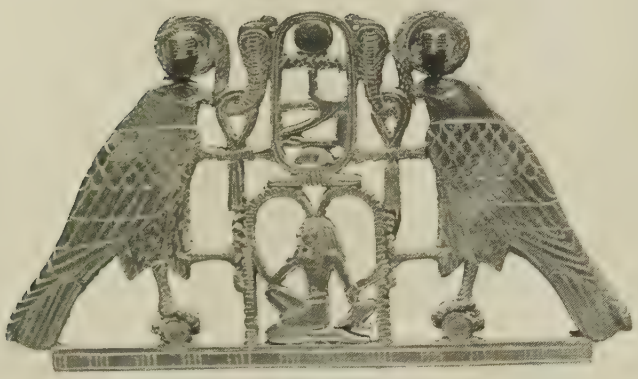


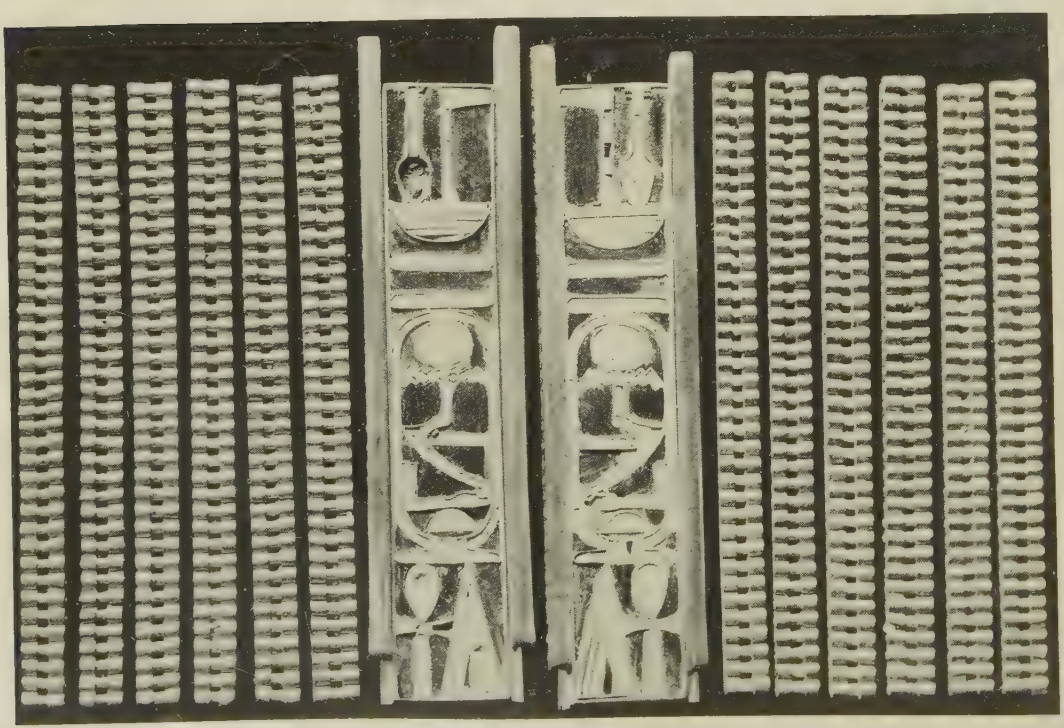
WIFE OF MENNA, CAIRO MUSEUM.

WIFE OF MENNA, CAIRO MUSEUM.

HARVEST SCENES, TOMB OF MENNA.

(*See p.* 96.)





PECTORAL OF SENUSERT II ;
PECTORAL AND ARMLETS OF AMENEMHAT III.

ANCIENT EGYPT.

BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT.

THE TREASURE OF LAHUN.

IN the previous number of ANCIENT EGYPT an account has been given of the principal features of the pyramid of Senusert II and its surrounding constructions. We now turn to describe the greatest discovery of the year, indeed by far the most valuable group that has ever been found outside of the Government reserves.

On the south side of the pyramid of Lahun, four large shaft-tombs were found, doubtless all belonging to members of the royal family. They had all been opened and plundered, probably in the decadence of the kingdom before the Hyksos. They had then been left open, and gradually filled up with dust, and mud washed in by occasional storms. In one of these tombs stood a granite sarcophagus, the massive lid of which had been partly pushed off and the edge broken away, enough to let a boy in to clear out the contents, and nothing whatever was left in it. The tomb appeared to have been entirely ransacked, and only a recess at the side of the passage remained to be examined. This was filled with hard washed mud like the rest of the tomb, and nothing could look less promising. The trained workman was told to clear it out and finish the tomb.

After a few cuts of the pick, the man saw some tubular beads of gold appearing. He at once removed the local workers who were about him, and sent word to the staff. Mr. Frost was at liberty, and went down; after taking out about a pound weight of gold beads, and beginning to uncover the band of the diadem, he fetched Mr. Brunton to come down and continue the clearing. The rest of the afternoon —10th February—and on up to midnight, the clearing went on, without even extracting the diadem, as the ground was so hard. Mr. Brunton slept in the tomb, and worked at intervals during the night, removing the diadem safely next morning. For five days, and several evenings also, Mr. Brunton, with sometimes Mr. Willey, steadily worked through the cubic yard of hard mud, every scrap of which had to be loosened most carefully as the jewellery and ivory work were scattered throughout it, and a single rough cut might do great damage. After that work, the whole of the earth was brought up to the huts, and, for some weeks sifting went on gradually and thoroughly, and all the richer portions were completely washed away as liquid mud, leaving the most minute beads behind. Thus over ten thousand beads were recovered.

Such a discovery would have raised a hornet's nest of dealers and robbers about us, if it were known while we were at work. But steps may be taken to secure the silence of the workman, without recourse to the ancient practice of killing all who knew a secret. The power of the purse in our regular system of reward was enough, and not even the man's own brother could find what the reward had been. So far as rumours reached Egypt, their nature showed that they were due to the betrayal of confidences in another country, and not to anyone in Egypt.

(1) The principal object was the diadem, bearing the royal uraeus on the front. It is formed by a broad band of highly burnished gold over an inch wide, and large enough to pass round the bushy wig worn in the XIIth dynasty. The uraeus is of open work, inlaid with lazuli and carnelian; the head is of lazuli, which was found loose in the mud. In washing the mud we recovered one of the minute eyes of garnet, and also the little ring of gold which surrounded it, and thus the head was completed again. Around the polished band were affixed fifteen rosettes, each composed of four flowers with intermediate buds. At the back a tube of gold was riveted on to the band, and into that fitted a double plume of sheet gold, the stem of which slipped through a flower of solid gold. The thickness of the plumes was such that they would wave slightly with every movement of the head. At the back and sides of the crown were streamers of gold, which hung from hinges attached to the rosettes. The whole construction was over a foot and a half high. The crowns found before at Dahshur are of designs different from this, which shows a reminiscence of the head-band or diadem painted on the figure of the princess Nefert, at the close of the IIIrd dynasty, or the silver crown of the XIth dynasty at Leyden. It preserves, therefore, the earlier style of the Old Kingdom. The plumes and streamers were found laid flat together beneath the circular band; they seem to have been carefully placed in this manner originally.

(2, 3) Two pectorals of the same design were found; one with the cartouche of Senusert II, belonging to the princess when young, the other of Amenemhat III, twenty or thirty years later. The cartouche is supported by the kneeling man, holding palm branches which rest on the tadpole representing millions of years. This group is flanked by two falcons whose backs form the outline of the group. The earlier pectoral is inlaid with minute feathering of lazuli and turquoise; the later with a different feathering of lazuli and white paste, which has probably been green. The gold backs of the pectorals are finely engraved, with most detail on that of Senusert II. The outlines of these, formed by the hawks, are more graceful than the square frames of the Dahshur pectorals. They were probably suspended by necklaces of the very rich deep amethyst beads which were found here. See the frontispiece showing the engraved gold backs of the pectorals.

(4) A massive collar was composed of large gold double lion-heads, one of which is made in two halves, sliding together to serve as a fastener. Between these came smaller quadruple lion-heads, as the threading holes are just the same distance apart, and the number (7) is the same.

(5) Another collar was of large gold cowries, one of which is in two halves sliding together, and therefore separate from the lion-heads. Some extra spacing is needed between these, and the double rhomb beads of gold have threading holes the same distance apart, while their number (16) is just double that of the cowries. These probably go together.

(6) A third collar was of the old type of long pendant or drop beads, of gold, lazuli, carnelian, and amazon-stone. The only beads which can have been placed between these are the rhombic beads of carnelian and blue amazon-stone, and these cannot have been threaded with the rhombic gold beads as they are too wide to fit those.

(7) Another necklet was a double row of amethyst beads, with two gold lion-claw pendants. This combination is suggested by the double beads of gold balls soldered to the claws, of the same size as the amethysts.

(8) A pair of deep armlets are formed of six bars of gold, each bearing two columns of thirty-seven rows of beads, which held apart as many rows of minute beads

of carnelian and turquoise. These armlets were each fastened on by sliding a broad strip of gold in grooves, the strip bearing the name and titles of Amenemhat III in blue and white, on an inlaid flat ground of carnelian. See frontispiece.

(9) A similarly made pair of bracelets had eight bars with twenty-three rows of beads, but without an inlaid sliding piece.

(10) Two pairs of small gold lions were found, which had double threading holes from end to end of the base. The distances of the holes prevents their belonging to either the bracelets or armlets, or to any of the larger beads. They were probably threaded on double strings of small beads, fastened with a small gold slider of the double rope-tie pattern.

(11) Two pairs of larger gold lions had each a single thread hole from end to end. They must have been on single strings of small beads, probably combined with the following :—

(12, 13, 14) Three motto groups of gold inlaid : with *fu ab*, "satisfaction of heart"; *ab hetep* between two *neter* signs, "the heart in peace amidst the gods"; and *onkh* between two *sa* signs on *neb*, "life amidst all protection." Each of these has a vertical slider at the back, with a ring on each part, hence they were fasteners for a single string of small beads. They were probably hung on the arm as amulets, each by a single line of beads.

(15) There were also two other amulets, *shen* signs of gold inlaid, meaning the fulness of life and possessions. One has a slider at the back, the other has a different form of slider, a cover slipping over a fixed tongue.

By the study of the gauges of all the double threading, the diameters of beads, the numbers of different patterns, the numbers of various fasteners, the known length of necklaces, the usual patterns on statues and paintings, and such details, it is possible to re-construct the original arrangement with but few uncertainties. It is much to be wished that the materials of the great Dahshur finds were similarly restored to something like their original appearance.

Other toilet objects were found : a pair of copper knives, a pair of copper razors with gold handles ; three obsidian vases with gold mounting on brim and base, and around the lid. The main piece was a large silver mirror with handle of obsidian, and cast gold head of Hat-hor ; the handle is inlaid with bands of plaited gold, and leaves around the base of carnelian and paste—blue and white—in gold settings. Two inlaid gold scarabs have gold wire rings to them ; another scarab is of lazuli ; a fourth one, of lazuli, engraved with the cartouche of Amenemhat III in a scroll, is probably the most perfect known, for the sharpness and finish in every part, and the intense blue of the stone.

Of the funerary outfit there were eight alabaster vases with lids of the usual type ; and in a limestone chest were the alabaster canopic jars. These jars are of the finest style, with beautifully finished human heads, and sharp inscriptions, recording the "Royal daughter, Săt-Hathor-ant."

The jewellery had been mostly placed in three caskets. One was covered with panelled ivory veneer, in the recesses of which all round were large gold *zad* signs. A second was of ivory veneer, with two beautifully carved strips on the lid, bearing the names and titles of Amenemhat III in relief. The third box was only of wood, which had entirely perished like the wooden basis of the others. It is hoped that the ivory caskets may be eventually restored from the thousands of fragments which have been collected.

The extraordinary conditions of the discovery seem quite inexplicable. The tomb had been attacked ; the long and heavy work of shifting the massive granite

lid of the sarcophagus, and breaking it away, had been achieved; yet all this gold was left in the recess of the passage, untouched. Had the crown been dragged out of the coffin, it would have been bent in some part; but it was quite uninjured, and placed as if carefully deposited. The whole treasure seems to have been stacked in the recess at the time of the burial, and to have gradually dropped apart as the wooden caskets decayed in course of years, with repeated flooding of storm water and mud, slowly washed into the pit. It cannot be that the whole was deliberately buried in mud to hide it, as then the parts would have been in exact position. On the contrary, everything showed a long gradual decay, during which the wood and the threads were rotted by wet, the beads all rolled apart, the parts of the armlets had fallen in every direction, and all the ivory veneer had dropped off and lay in a confused stratum of fragments. This was all bedded over by mud washing in, to more than a foot in thickness. The whole treasure was standing in an open recess, within arm's reach of the gold-seekers, while they worked at breaking open the granite sarcophagus.

Lahun contains some of the strangest puzzles. An immense chip heap was banked up in a quarry, a very usual and unimportant matter. Yet in this heap is an offering pit built of fine stone, surrounded by an enclosure wall; at its side stood four wooden boxes containing bowls of offerings. Near it, in the chips, were other boxes of offerings, each sealed by a different official. Close by lay the great steering oar of the king's funeral barge. Why should officials present boxes of offerings, and why should there be an offering pit, in a quarry? Does it all hide something? Was Senusert ever buried in the pyramid? Was his burial hidden elsewhere?

At the foot of the pyramid a similar box was found sealed up, containing the skeleton of an infant. Is this a sacrifice? These, and many other questions, we must try to settle in the continuation of the work.

Coloured plates of all the jewellery will be given in the annual publications, and some in the frontispiece of the next volume of this Journal.

The Treasure of Lahun and the other discoveries of the year will be exhibited from the 22nd of June to the 18th of July, hours 10 to 5, at University College, London. Admission to the Exhibition is free, without ticket.

W. M. F. P.

BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT.

HARAGEH, 1913–14.

SOME very successful excavations have been carried on this season, by the second camp of the British School, on the southern half of the Gebel Abusir, an isolated strip of desert lying in the broad cultivation between the entrance to the Fayum and the Nile. The work was chiefly concentrated on the south-west side, near the village of El-Harageh.

This rich site, which for some reason has been neglected by the excavators, both English and foreign, who have worked in the district, yielded a series of isolated cemeteries of the following periods:—Middle Pre-historic, IIIrd–IVth, VIth–XIth, XIIth, XVIIIth, XIXth and XXIIIrd dynasties, together with the inevitable large quantity of Roman and Coptic burials. In addition to these cemeteries, which numbered fourteen, there were several large deposits of potsherds bordering on the cultivation; these had been much disturbed by *sebbâkhyn* (collectors of nitrous earth), so much so that it is doubtful whether they were thrown out from some town now under the cultivation area, or whether they mark small village sites of which all other traces have disappeared. The numerous inscribed objects from these mounds mention only one king—Senusert II, builder of the Lahun Pyramid, a few miles away; and the pottery was of the town type, very similar to that of Kahun, no later types than the XIIth dynasty being found. The same king is alone mentioned on the inscribed objects of the adjoining large XIIth dynasty cemetery.

Especially interesting was the presence of Hyksos pottery like that found at Tell el-Yehudiyeh (black ware, incised with white triangular pattern and dots). These were found both in the sherd-heaps and in tombs which, from the pottery and other objects, appear to belong to the XIIth dynasty. It thus bears out the view that for some time before the Hyksos dynasties, a considerable infiltration of Syrians was taking place.

A further feature of these sherd-mounds was the presence of the foreign "Kamarēs" pottery, which Prof. Petrie demonstrated twenty-five years ago to have been imported in the XIIth dynasty. This pottery belongs on the Cretan side to the period Middle Minoan II, and thus serves as another contemporary link between the histories of Egypt and Crete.

Nearly all the tombs had been robbed anciently, though they had almost escaped the attention of modern plunderers. It is a noteworthy fact that in a very large number of graves, the skull was all that remained whole of the body; even the long bones, which might be expected to last as long as the cranium, were smashed to pieces or absent. We refrain from dogmatising on the matter, as there is no direct evidence that Egyptian tomb-robbers respected at any time or in any way the dead whom they were plundering; further observation may throw more light on this curious circumstance.

The season's work has resulted in a rich mass of objects, all of which will fortunately be on view at the Annual Exhibition of the School in July. First should be mentioned a valuable group of the XIIth dynasty, consisting of inlaid

cloisonné jewellery of the same class as the Dahshur and Riqqeh work, but in silver instead of gold, as well as twenty-four perfect vases in alabaster, serpentine, and limestone, and a fine stela. From another grave came several gold fish, of the kind now known as *shāl*, one of them being probably unique for exquisite workmanship and truth to nature.

Another rare group is an untouched "button-seal" burial. The seal has a cross pattern and is accompanied by leg and hand amulets of carnelian, some remarkable gold work, and a large quantity of beads.

A number of figures in wood and stone, mostly in perfect preservation, and of the XIth–XIIth dynasties, were also obtained. A pair of wooden figures of a man and his wife (XIth dynasty) are of especially fine work.

Of the several steles, the large stone of Nebpu is of special importance, as, apart from its admirable workmanship, the inscription invokes an unusual god, Hez-hotep, and the "king of the south and north, *Kha-kheper-Ra*," in the *nesut dy hotep* formulae, and mentions local place-names and titles.

The collection of beads and of alabaster vases is very large, and over 250 scarabs, mostly of the XIIth and XVIIIth dynasties, as well as a quantity of Middle Kingdom inscribed cylinders, were found. A couple of painted tombs (probably of the Xth dynasty) of a *Har-shef-nakht* and his wife, several XIIth dynasty papyri, several wooden coffins, and many pots and sherds written in hieratic, together with the steles, form a satisfactory group of inscribed objects.

Two very small cemeteries of the Middle Pre-historic period have yielded a large quantity of pottery, also some flaked flint knives of the excellence peculiar to this early time.

Excavations have also been made at Ghorâb (Gurob), in a cemetery of the XIXth and later dynasties. The work of the camp has been assisted by Mr. F. P. Frost, who undertook all the conservation, storing and packing of objects, Dr. Walter Amsden, who measured over 300 skulls, and Mr. Guy Brunton, who gave us great help at the beginning of the season; while we are responsible for the recording, planning, and general management of the camp.

Rex Engelbach.
Battiscombe Gunn.
Duncan Willey.

EGYPT EXPLORATION FUND.

THE EXCAVATIONS AT ABYDOS.

THE work of the Egypt Exploration Fund at Abydos, carried on during the winter, 1913–14, by the present writer, assisted by Prof. Whittemore, Mr. Wainwright, and Mr. Gibson, has been a continuance of what had been done in 1912. Then, we had started from Mrs. Flinders Petrie's excavations at the Osireion, from the door discovered by her and Miss Murray in the Hall, at the end of the passage called on the plan: "Entrance from the temple." (See *Osireion*, Plate XV.) This passage we entirely cleared; it is forty-five feet long, and leads to what we thought at first to be two separate chambers. In front of its end, at a short distance, was a huge lintel fifteen feet long; we see now that it is the doorway to the following construction which we excavated completely.

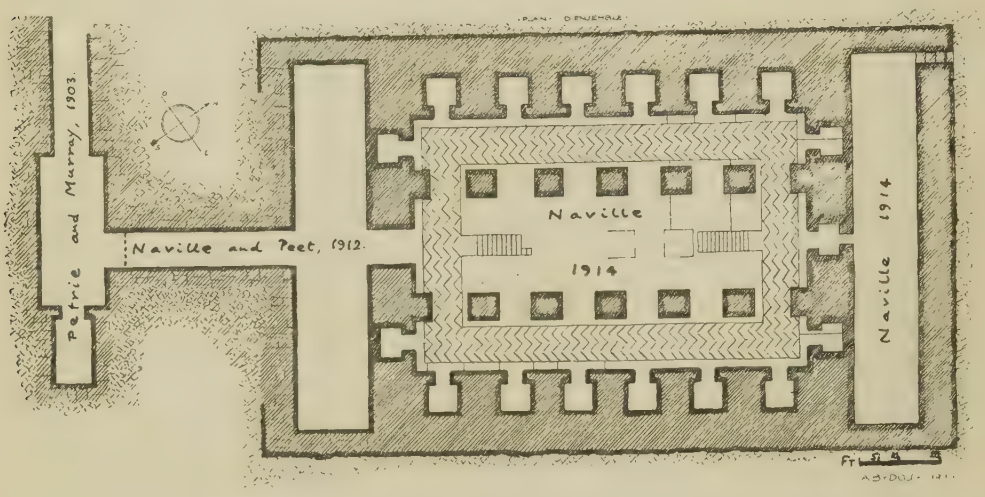
We began in front of the doorway and of the thick wall which extends right and left. We traced the enclosure wall, and we pushed forward towards the temple of Seti. After a work of eleven weeks the construction was cleared, the plan of which is here reproduced, and is as follows: It is a rectangle, the inside of which is about a hundred feet long and sixty wide; the enclosure wall is twenty feet thick. It consists of two casings, the outer one is of limestone rather roughly worked; the inner one is very fine masonry of a red stone, which we thought at first to be quartzite, but which Dr. Hume declared to be a hard kind of sandstone coming probably from the country near Assuan. The two long sides are roughly north and south, as the Arabs say, the entrance is in one of the shorter sides, and the other is the end wall, which is about twenty feet from the temple of Seti.

The inside of the rectangle is divided into three naves of unequal size, the middle one being wider than the side aisles. The naves are divided by two colonnades, each having a row of five huge granite monolithic pillars, on which rests an architrave six feet high, made of blocks more than fifteen feet long. Architrave and enclosure wall supported the ceiling, also made of monoliths six feet thick.

Ceiling, architraves, pillars, in fact all the inside, are of Assuan granite. The whole building, the style of its masonry, the total absence of any decoration reminds one very strongly of the so-called temple of the Sphinx, so that I think that this construction goes back to the Age of the pyramids, it may be even older than the temple of the Sphinx. Unfortunately, the fine material has contributed to its destruction. In one corner only, in the northern aisle, the ceiling has been preserved. This corner gives an idea of what must have been the majesty of the construction, with its enormous stones.

When we reached the third layer of the masonry in the enclosure wall, we discovered that all round the construction there were cells all alike, seventeen in number, six feet high and wide. They are absolutely bare, without any ornament or inscription. They all had doors, with one leaf: the holes in which they turned are still visible. It was to be expected that these cells opened on a floor, but in front of them there is only a very narrow ledge which goes all round the construction. Below the ledge the fine masonry continues, and at a depth of about fourteen feet the water was reached at a level which is now that of the infiltration in the cultivated

land. We could not go deeper, owing to the quantity of granite blocks which have been thrown there. Water was found in several places, and it is clear now that the two side aisles and the small sides of the middle one were a continuous pool, on both sides of which was the ledge. On the outer side of the pool are the cells, on the inner the pillars of the colonnades. The ledge is not a slab, it is the big stone of the masonry which has been hollowed out, so that the ledge projects over the water. The masonry goes down probably another twelve feet below the present level of the water.



Opposite the doorway, the end wall is covered with sculptures, showing Menepthah worshipping Osiris and other gods. There are also large representations of the two usual amulets, the and the buckle . This has decidedly a funerary character, and seems to indicate a tomb. At the foot of this end wall is the ledge and the door of a cell. The back wall of this cell has been broken through, so as to make a door which has been blocked afterwards with stones. This door gives access to a large chamber, wider than the whole construction, with a ceiling made of stones leaning against each other. The room was found empty. The sculptures on the ceiling and on the side walls, which are of the time of Seti I, are of a nature indicating that it is the so-called tomb of Osiris, the entrance of which was concealed, since it looked exactly like a cell. I consider this chamber as being of a later date than the pool.

The middle nave was a huge block of masonry going down as deep as the other side of the aisles. The level of its floor is that of the ledge and of the cells. It supports the pillars of the colonnades, and it has two staircases, one at each end, going down towards the water. This platform is an island, being surrounded by water on its four sides. There is no path to reach it, even at the doorway, which has only the ledge.

Thus the result of last winter's campaign has been the discovery of the great pool, which undoubtedly is Strabo's well, and of the tomb of Osiris which was entered from the pool, and which I consider as being of later date.

EDOUARD NAVILLE.

EXCAVATING THE GREAT HALL OF THE OSIREION.

INTERIOR OF THE GREAT HALL OF THE OSIREION.

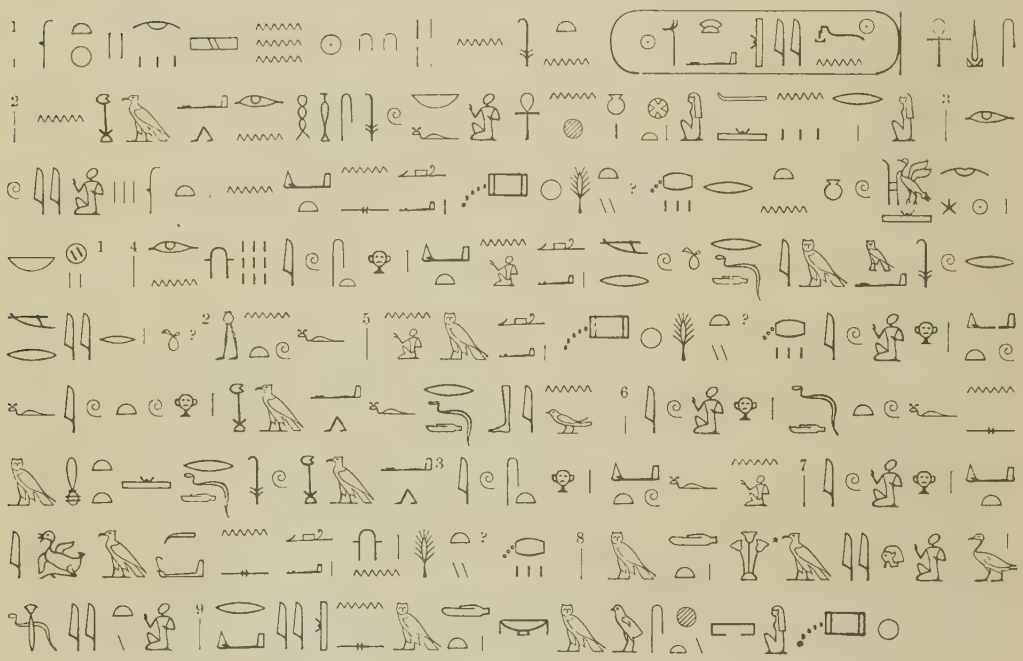
HIERATIC OSTRAKA FROM THEBES.

Among the ostraka at University College, London, collected from Thebes by Prof. Petrie, two of the longer and more complete examples are here transcribed and translated. They are both of the XIXth dynasty, written on flakes of white limestone. The hymn to Mut has red spots at intervals to separate the lines; these spots are darker than the text in the photograph. Probably both of these came from the clearance of the Ramesseum.

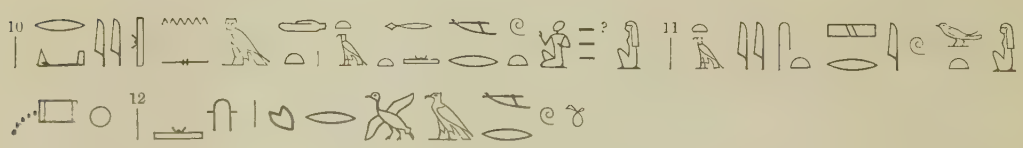
Transcription.

Recto.

No. 1.—22 × 16 cm.



Verso.



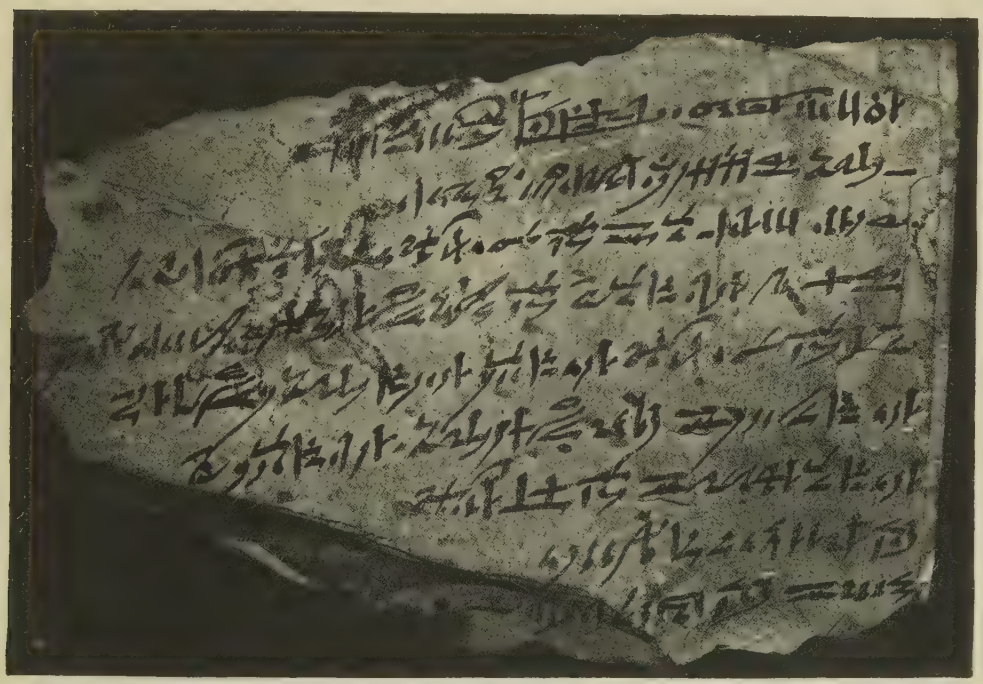
Translation, *Verso.*

10 There was given to her by Ṭ-o-merut,
11 her daughter ¼ sack
12 In toto 1½ sack for the woven cloth

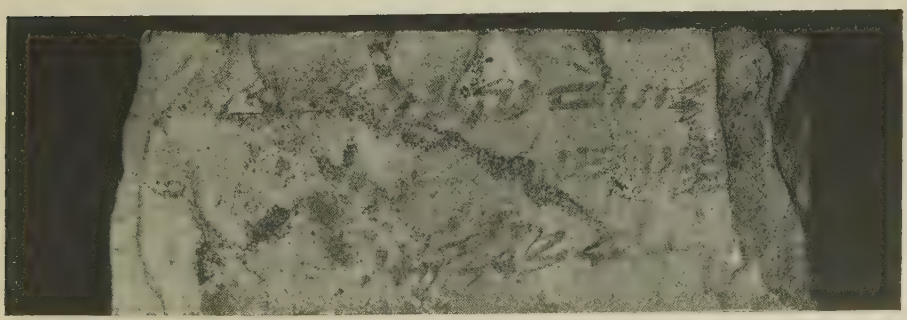
[1] The same ligature as for instance in P. Abbott 5/5.
[2] Against the reading see note in the translation.
[3] The point is evidently accidental.

TRANSLATION, *Recto.*

1 Year 2, 3rd month of Harvest (Epiphi) day 24 of King Set-nekht
2 (the day) when Ḥes-su-enbṓf dismissed the Theban woman (?) Ḥunura
3 I gave her during three years in every single month ¼ sack of wheat (durrah),
4 makes 9 sacks. She gave me a woven cloth[1] saying: Give it to the cloth shop (?)[1]!
It was brought
5 to me as valuing ¼ sack of wheat. I gave it (but) they refused it saying: It is
bad.
6 I repeated it to her, saying: It has been refused. She gave it to me
7 and I sent[2] her a sack of wheat
8 by Ḥoye, the son of Si-utoyet.
9 There was given to her by Nub-em-woskhet ¼ sack



Recto.



Verso.

[1] One cannot read the name of a person and translate "give it to Merira!" as in that case the preposition ought to be *n* and not *r*.

[2] Correct *ỉṯ <tw> n = s*.

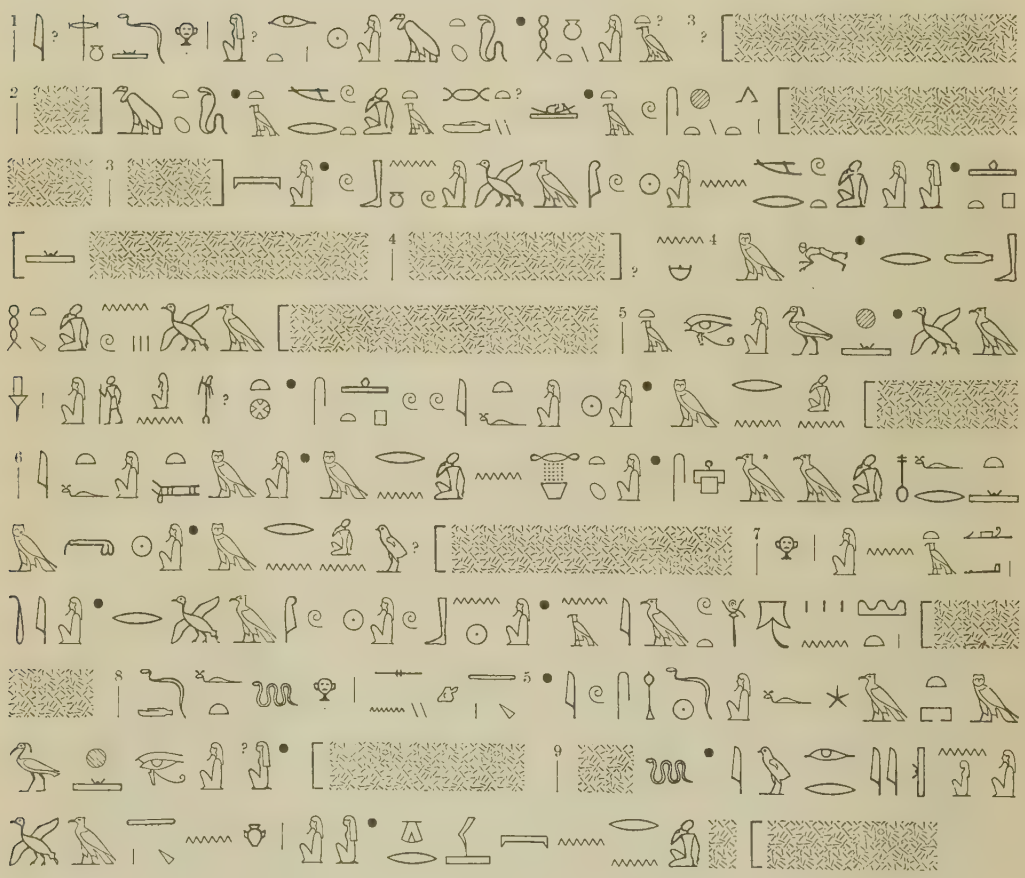
Notes.

Owing to lexicographical difficulties the contents of this curious text are by no means clear. The principal matter is a bargain. The weaving woman Ḥunura tried to sell a cloth, or what may be the sense of *mrw*, by the mediation of Ḥes-su-enbŏf who had dismissed her, if I rightly understand the sense of the second line,[1] after she had been in his service for three years. This cloth having been refused by the draper on account of its bad quality, *Ḥes-su-enbŏf* bought it himself, giving for it in all 1½ sacks of wheat, *i.e.*, 6 times as much as the woman had asked, having paid only ¼ sack. How all this is to be connected, is not clear to me. At any rate the text is interesting in several respects not the least for its date, proving that Set-nekht has reigned at least 2 years.[2]

Hymn to Mut.

Transcription, *Recto.*

No. 2.—16½ × 13½ cm.



[1] It is impossible to take *ḥ3ʿ* in the technical sense of divorce known by demotic contracts.

[2] Concerning the year 10 + *x* Gauthier (*Livre des rois*, III, p. 154) has rightly questioned the correctness of the reading of Weill (*Recueil inscr. Sinai*, p. 215, No. 118).

[3] Or .

[4] Or .

[5] The signs above the line are the remnants of the first text covering the stone.

Translation.

Recto.[1]

1 Hail to thee, eye of Rê, Mut—Lady of [. . . . . .

2 . . . . . Mut—beloved by the bark of the morning Sun—walking proudly [. . . . . .

3 . . . . .] heaven (?)—The Sun rises at thy pleasure—[he] sets [at thy pleasure . . . . . .

4 . . . . .] bows down (?)—, in order to ask life for them, the [. . . . .

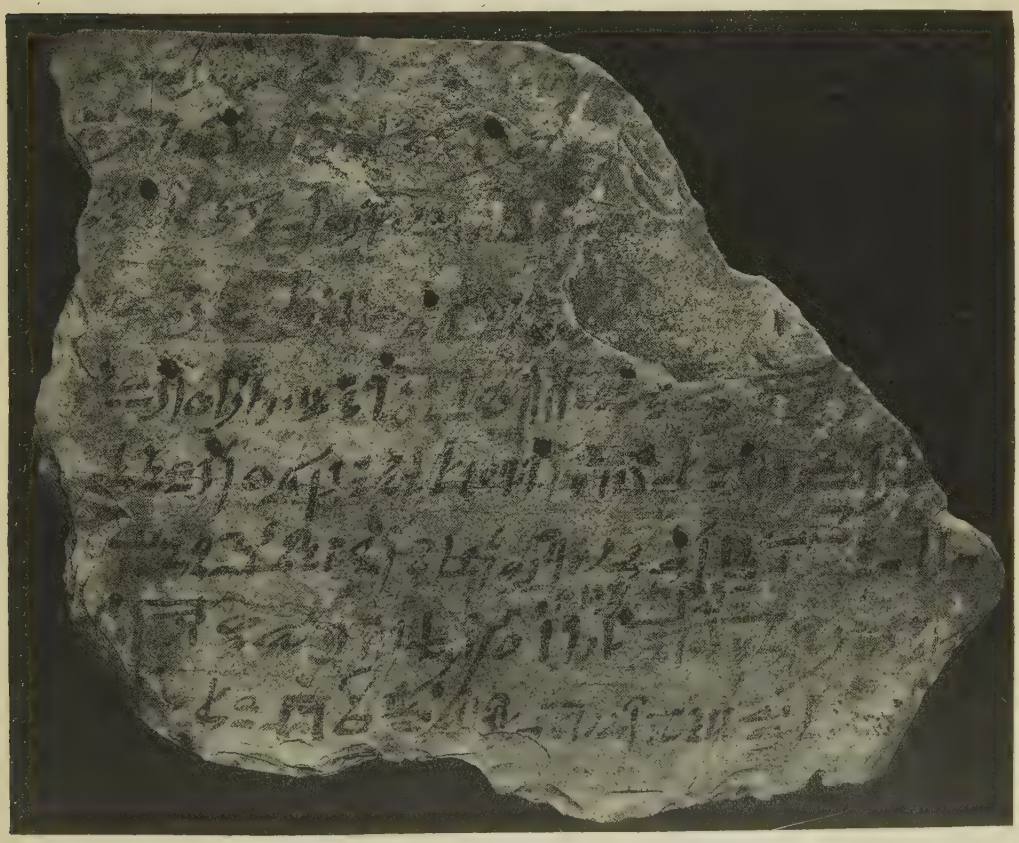
5 The excellent Eye of Uzat,—the great image of Thebes (?)—who satisfies his father Rê,—in the name [. . . .

6 father Atum—in the name of Schesemtet, the goddess (?)—the beautiful sage one before Rê—in the name of [. . . . .

7 face of the only one[2] towards the rising Sun.—The wild cattle of the mountains [. . . . .

8 the worms kiss the ground.—He illuminates the Nether-world with his bright eye—[. . . . .

9 . . . Thou hast made the earth after thine own heart.—Thou hast settled the heaven in the name of [. . . . .

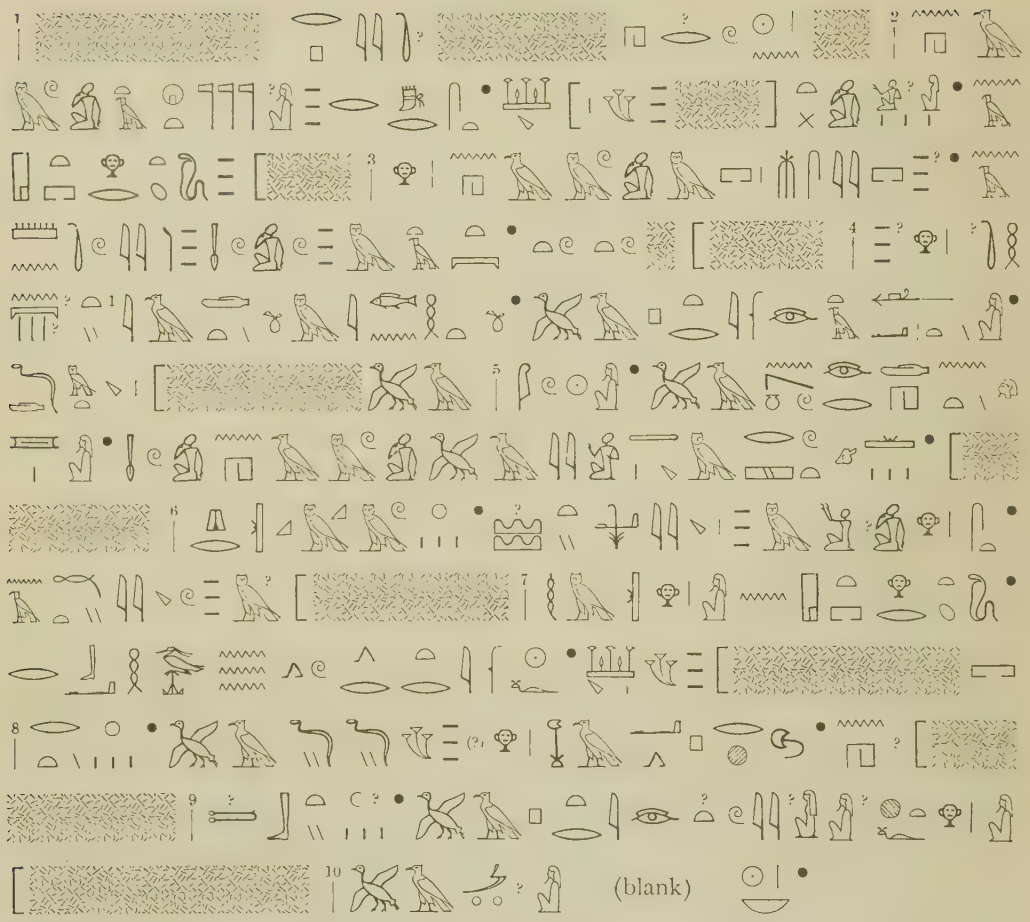


Recto.

[1] The line — corresponds to the red dot of the Egyptian text and denotes the end of a phrase.

[2] "The only one" is a name of the sun, appearing as the uraeus snake. See Sethe, *Untersuchungen*, V, p. 122.

Verso.



Verso.

1 . . . . . .

2 The whole cycle of gods jubilates.—The meadows (?) exult.—The Hathors [rejoice in . . . . . The birth-goddesses (?)]

3 jubilate in the birth house.[2]—The Mentuy, their voices (sound) in the heaven.—[. . . . . The meadows (?)]

4 are bright with dew[3] in . . . .—O thou who sees the only one—Heaps (?) [. . . . . .

5 Sun, who sees the hill[4]—the voice jubilates and my land is rejoicing—[. . . . .

6 with cymbals.[5]—The southern nations praise her[6] face.—The northern . . . [. . . . .

7 Cheerful is the face of Hathor—when the inundation comes in its time.—The meadows . . . . . .

8 corn—The zizi plant sprouts leaves—. . . [. . . . .

9 . . . . . —O thou who seest . . . in the face of [. . . . . .

10 who beholds every day.

[1] This is scarcely .

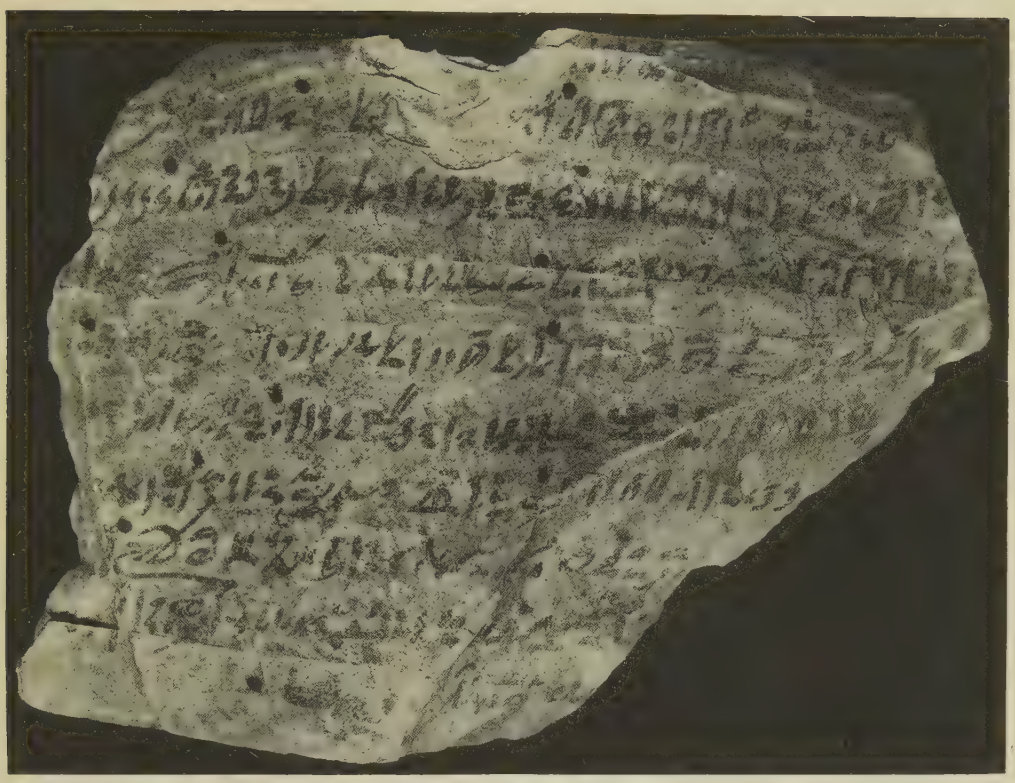
[2] A special room in the temple consecrated to birth goddesses, in connexion with the divine birth of the king.

[3] I suppose there is a confusion between ' $\underline{d}\,t$ "net" and "dew."

[4] Perhaps a geographical name.

[5] = ⲕⲟⲩⲕⲩ : ⲕⲉⲩⲕⲉⲩ.

[6] This suffix may be corrected to "thy" (2nd person fem.).



Verso.

NOTES.

The Recto contains a hymn to the Theban goddess Mut, called "eye of Rê," an epithet known also from other texts.[1] This expression, originally signifying the Sun, has become very early a special goddess,[2] which has been identified at several places with their principal goddesses. Our text shows that in Thebes the eye of Rê was Mut, whilst generally it was Hathor. I am not quite sure whether the text of the Verso, evidently being a part of a religious hymn, is a continuation of the hymn to Mut.

W. SPIEGELBERG.

[1] *Ä.Z.*, 1895, Tafel IV, Cairo Catal., 440ff., 78 (Miroirs). PIERRET: *Catal. Louvre*, I, 9. JUNKER: *Auszug der Hathor*, p. 34.

[2] See SETHE: *Untersuchungen*, V, pp. 123 ff.

TWO SILVERSMITH'S MODELS FROM EGYPT.

TWO small terracotta objects (Figs. 1, 2, 4) were bought by me some years ago at Casira's shop in Cairo. They were said to come from the same place as the silver and gold vases of Tell Basta, now in the Cairo Museum. The dealer believed them to have been found together, and he showed me some more pieces of the same hard yellowish clay as the figures which I purchased. I believe a full examination will show that his opinion was correct.

Fig. 1 (5,391 in my Collection). Figure of a goat,[1] 80 mm. high. One horn is missing, and all four feet. The head, and the back with the tail, are of excellent spirited work; the side of the legs, especially on one side, is well treated, while the front of the figure is quite neglected. By far the best part is the head, where even the nostrils are indicated, and the eyes accurately modelled. But the style is in no way what we should expect for a clay figure; it is of the style of metal work, every detail being engraved, and it strongly resembles the figure of the goat forming the handle of the silver jug from Tell Basta.

Figs. 1, 2.

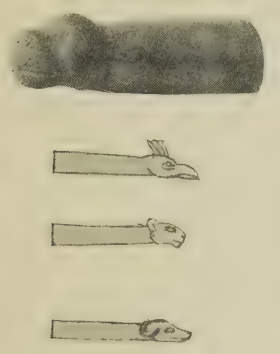
Fig. 3.

When once the comparison between the two figures has been made, the attitude and the conditions of the clay goat are explained; it was the model for casting a figure intended to stand in the same way as a handle on a jug, and thus there was no need for elaboration on the front of it. The feet now missing were attached to the jug. As this terracotta is a model for a figure in some more

[1] That this is intended for a goat is probable, although the horns are turned the wrong way; a gazelle is hardly likely, and still less any other animal. Nor is there any reason for supposing a fantastic animal to be intended, although the shape of the legs might at first suggest such an explanation. It is well known how many irregularities the horns of goats show, even in European countries.

costly material, it belongs to the same age as the silver vase of Tell Basta, and very probably is from the same workshop. Handles in the form of animals are well known in Egyptian pictures of the New Kingdom ; for examples see CHAMPOLLION, *Monuments*, Pl. 131, and W. M. MÜLLER, *Asien*, 348 = W. M. MÜLLER, *Egyptological Researches*, II, Taf. 2 and 6, from the tribute of Asiatic people ; compare also the metal vase of the time of Thothmes III, SCHAEFER, *Altaegyptische Prunkgefässe*, p. 44, and WAINWRIGHT, *Annals of Archaeology and Anthropology*, VI, Pls. IX, X, XI, amongst the tribute of the Keftiu as well as of the ordinary Asiatics.

If the origin of this kind of ornament may point to Syria and the Aegean world, it was quite adopted by the Egyptians themselves, as the jug from Tell Basta shows. It is perhaps a new argument for the purely Egyptian character of the silver find from Tell Basta that we are able to lay our hands on the clay models which the silversmiths used.



Figs. 4, 5, 6, 7.

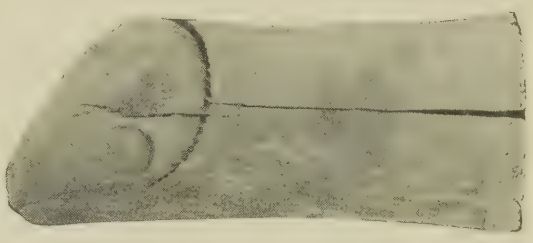


Fig. 8.

Fig. 4 is perhaps as interesting. It is a round rod of about 7 mm. in diameter, and 30 mm. long. There is no sign of a break at the undecorated end. The other end shows the head of a calf, of very beautiful work. All the details around the eyes and the mouth are wrought with the utmost care, and the modelling reminds us of metal work, as in the previous figure. We have evidently another model before us, and as the material corresponds exactly with the clay of which the goat is made, there is a strong confirmation of this explanation. No such material is otherwise known, down to Hellenistic times. The fragments of another goat, and of some undetermined object, which I saw at the same dealers, were of exactly the same hard clay, evidently specially prepared for such models for a silversmith. This clay was in Hellenistic and Roman times used for a special kind of small vases, decorated with reliefs, and generally gilt ; they are copies of gold vases of that age. (Compare on these vases, SCHREIBER-PAGENSTECHER, *Ausgrabungen in Alexandria, die griech-aegypt. Thongefässe*, p. 70 *et seq.*)

What was the purpose of the object for which our terracotta served as a model? The first idea that suggests itself is that of a rhyton. Such rhyta are known down from Mykenaean times in Greek art (*Kast, Arch. Jahrb.*, 1911, 249), and DE MOT (*Revue Archéologique*, 1904, II, 201 *et seq.*) has collected a certain number of parallels among the Egyptian drawings of vases brought by foreign ambassadors to Egypt (compare WAINWRIGHT, *l.c.*).

But all of these vases, just like the Minoan rhyta, always show a very short neck ; they are in reality only heads of animals. On the contrary, among the

precious vase forms collected by Prisse d'Avennes from the monuments of Rameses III (*Collection des vases du règne de Ramsès III, Karnac et Medinet Habou*, compare DÜMICHEN, *Photographische Resultate*, Atlas, Pl. 2 f.), rods perfectly similar to our terracotta are figured (see Figs. 5, 6, 7); they end in the head of a gryphon, a lion, and a dog, so a calf would be of the same class. They cannot according to these shapes have been used for drinking purposes; if the long rod were hollow it would be most inconvenient to drink from, and the object would need to be very large.

Now in the Cairo Museum there is a similar object made of wood (Fig. 8, 21 cm. long). It is a cylinder ending in a ram's head, and very elaborately worked and ornamented. There is no hole in the head, so it cannot be a rhyton. The inner diameter of the cylinder is somewhat under 8 cm. The only explanation I can think of which would agree to the wooden object in Cairo, as well as the precious metal objects of Rameses III, would be a handle for a cup, or dish, or other such object. The clay model in my possession would, of course, have to be enlarged for such a use. But this is no objection, as the same thing is true for most ancient Egyptian models, and may be true even for the goat.

The terracotta model from its style and its history belongs to Ramesside times, like the pictures given by Prisse. The wooden cylinder in Cairo is said to have come from Thebes, and certainly belongs to the New Kingdom. As a curious fact connecting this wooden handle with the terracotta model, I may mention that the ornament round the edge of the cylinder occurs again just where the neck begins at the back of the head of the model, possibly as an indication of hair.

The form of the handle, it seems, survived down to Hellenistic times. Among the bronzes found in Egypt similar handles ending in rams' heads, or the heads of gryphons and eagles, are not unfrequent (*e.g.*, EDGAR, *Greek Bronzes, Cairo*, Pls. VI, 27872, VIII, 27746–7, XIX, 27869; also *Arch. Anz.*, 1903, 148 *b*, p. 145). I am well aware, of course, that they are also found outside of Egypt, *e.g.*, at Boscoreale. Still there seems to be at least a very strong predilection among the Egyptians for this kind of handle, as it occurs often in terracotta of Graeco-Roman times (PAGENSTECHER, *Griech-aegypt. Thongefässe*, Pl. XXXIX, 5).

Perhaps this predilection has historical reasons. The type, as we see, was familiar to the Egyptians since the New Kingdom, and possibly even earlier; at Kahun, with objects of the XIIth dynasty, Petrie found a spoon with a duck's head at the end of the handle (*Kahun*, VIII, 17, p. 29); and in prehistoric times we find animals of all kinds surmounting pins, combs, etc., or walking along the handle of a spoon. A well-known shape of a handle for some instrument ends in a hippopotamus figure or a human head (PETRIE, *Naqada*, Pls. LXI–LXIV; CAPART, *Primitive Art*, Figs. 46, 156). Probably some religious meaning was originally attached to such ornament; but by the time the handles of the New Kingdom were in use, such meaning, if ever it existed, had long become obsolete, and the animal head at the end of these handles had turned into a simple, but very appropriate, form of ornament.

It is not my intention, of course, to follow out in this short article all the history of handles ornamented with figures of animals or human beings. All I intend is to explain the meaning of the two objects here published for the first time, and to show how this type of handle probably survived into Hellenistic times, and possibly may be derived from prehistoric Egyptian types.

FR. W. v. BISSING.

EGYPT IN AFRICA.

I.

Nature of the evidence.

Treatment of the body.

1. Mummifying.
2. Contracted burial.
3. Beheading the dead.
4. Passage for the spirit.
5. Vehicle for the spirit.
6. Restoration of ability to the corpse.
7. Recess graves.
8. Pole over grave.
9. Round-domed graves.
10. Domed pit tomb.
11. Sloping passage tomb.

Offerings for the dead.

12. Beer and flour offerings.
13. Cloth offering.
14. Offerings at the grave.
15. Killing the offerings.
16. Offering chamber above grave.
17. Drain to the east.
18. Men sacrificed at royal funeral.
19. Eldest son the family priest.
20. The funeral image.
21. Tall hats of officiants.
22. Offering chamber for the image.
23. The soul house.

THOUGH as a matter of mere geography the continental position of Egypt has always been obvious, yet as a matter of humanity it has always appeared to be aloof from the rest of the continent, in a way that perhaps no other country is detached from its natural connection. Egypt has always stood at a far higher level of civilisation than any other part of Africa, for the links with Syria, Crete, or Greece have been leading factors. So far have these connections prevailed that we need now to recall with care how largely the earliest stratum of Egyptian ideas has been at one with the rest of Africa. For this purpose we shall here quote from half-a-dozen different works, of original observers in the regions south of the Mediterranean, most of whom have written without any idea of the parallels which exist between their record and that of Egypt.

It may aid in considering the evidence of these various parallels, if we first clearly separate the different conclusions which might be drawn from them, and see to what end they point. Similarities between ancient Egypt and modern Africa may have resulted in three different ways. They may be: (1) due to a parallel development of thought without any material connection; such seems to have been the case in the ancestor worship and offerings of the Chinese and of the Egyptians respectively. Or (2) they may be due to direct descent, in Egypt and in Africa, from a common source. Or (3) may be the result of Africa borrowing from Egypt. In judging between these different causes, the main tests are that the independent and parallel development (1), may be disproved by such small details appearing as are unlikely to be devised independently. On the other hand, the historical conditions of Egypt are such, that the absence of much communication with Africa before the conquests of the XIIth and XVIIIth dynasties precludes (3), by the direct borrowing of details which only belong to the Old Kingdom and earlier, and which disappeared before the Nubian conquests of Egypt began.

Thus the nature of the evidence may leave only (2),—a direct descent from a common source,—as the possible explanation: but it is not to be expected that such evidence by exclusion should apply to even a majority of the cases which were due to common descent. On looking to the number of similarities to be dealt with —about sixty in all—we may set aside four or five as clearly due to late Egyptian influence of the Graeco-Roman period, and ten as being instances of beliefs which were general, and do not yield evidence either way. Of the forty-five resemblances in customs or products there are thirteen which are only explicable by (2), descent from a common source. Now, as we have pointed out, it is not to be expected in the nature of the evidence that we should generally be able to exclude parallel development, by using the test of early extinction of the resemblance in Egypt; as large a proportion as thirteen in forty-five is enough to show that direct descent is in general more likely than parallel development. Accordingly we shall be justified here, by the proportions of the evidence, in regarding only direct descent from a common source—which is so abundantly evident; such common source being in nearly all cases a primitive stock of population, and only rarely a later influence which passed through Egypt on its way into Africa.

Apart from the question of which mode of connection has produced these parallels, it must be remembered that the parallels are mainly of value to us as giving a living view of material which we only see dead in Egypt. We cannot ask an ancient Egyptian why he performs a ceremony; we can but very imperfectly imagine what were the ceremonies performed, by looking at the implements used, or at some chance representation of one particular stage. The modern African can be cross-examined, and every step of his actions recorded. Whether there be a direct copying of Egypt, a common descent, or even a parallel development, such living view of the case before us must be an invaluable guide to understanding the proceedings and ideas of the ancient ceremonies and beliefs which were similar to those of modern times.

The writers quoted here are: (W) *The Native Races of British Central Africa*, by A. WERNER, 1906; (L) *The Lower Niger and its Tribes*, by Major LEONARD, 1906; (F) *The Voice of Africa*, by LEO FROBENIUS, 1913; (S), *The Cult of the Nyakang*, by Dr. SELIGMANN, 1911; (D) Article *Dinka*, in "Encyc. Relig. and Ethics"; and (H) *Hamitic Problem in the Anglo-Egyptian Sudan* (*Jour. R. Anthrop. Soc.*), 1913, both by Dr. SELIGMANN; (J) *Racial and Tribal Migrations in Africa*, by Sir H. H. JOHNSTON (*Jour. R. Geog. Soc.*), 1913; (N) *At the back of the Black Man's Mind*, by R. E. DENNETT, 1906.

The material may best be classified under the following heads:—

Treatment of the body and burial; Offerings for the dead; and, in our next number, Royal functions; Beliefs; Material products; Late influence from Egypt.

Treatment of the body.

1. *Mummifying.*—This appears to be restricted now to important people, but the ceremony is evidently thought desirable where it can be performed; as the damp and heat of the tropics make it especially difficult to preserve flesh from decomposition, it is to be expected that so difficult a process should only be resorted to in special instances.

"The Babenda seem to make some attempt at mummifying the corpses of their chiefs, by rubbing the body all over with boiled maize, repeating the process till the whole skin becomes dry and shrivelled." (W., 163.)

"The elaborate manner of embalming, as it was practised by the ancient Egyptians, is not, of course, known ; but in the case of kings and chiefs, . . . a rude method of embalming is carried out. Having first smeared the body with a decoction from certain plants . . . it is rubbed all over with camwood, and . . a quantity of spirit . . is poured over it . . . The favourite method, however, . . . is to smoke-dry the corpse." (L., 175–6.)

2. *Contracted burial.*—This is by no means peculiar to Africa, as it is well-known in pre-historic Europe ; but it is still very usual from east to west of Africa. "The Yaos lay their dead with the faces to the east, and with the knees bent up to the chin." (W., 175.)

In Nigeria, "the corpse is reduced to the smallest possible compass by drawing its knees upwards and tying the arms to its sides, bound up in rolls of cloth and . . . so placed as to bring the face of the dead looking westwards." (F., 21.)

Tightly Contracted Burial, Age of Mena. Tarkhan.

"The Galla of British East Africa bury in a contracted position, the corpse being tied in this posture, but inhumation is in the squatting, not the lying posture; . . . among the Nilotes . . . I believe by the Shilluk, and certainly by the Shish Dinka . . the body is laid . . on its right side with the knees and arms flexed, the head resting upon the right hand . . . Among the Akikuyu . . . burial, when it does occur, is on the side in a flexed position . . . The body is placed on its side, with the knees bent and drawn up. The head rests, if a man, on the palm of the right hand ; if a woman, on the palm of the left, or it may be placed on the two hands placed together, palms facing . . . The inhabitants of the lacustrine kingdoms of Ankole and Unyoro also bury in the flexed position ; the Bahima commit their rulers to the village manure heap, commoners are buried at the door of their huts, but in both classes the arms and legs are doubled up against the body, which lies on its side, and the head is bent forward. The Banyoro place the body on its left side, with legs and arms flexed, and the hands under the head." (H., 83–4.)

The regular attitude of the pre-historic Egyptians was moderately flexed, with the head to the south and face west. In the close of the pre-historic Age the body was often tightly bandaged together forcing the legs and arms parallel to the spine, and the head bent forward, so as to make an oval bundle. Both of these types we see to continue in Africa.

3. *Beheading the dead.*—"Never have I come across a people who so truly held in honour their begetters. And yet they are the most terrible barbarians with regard to the remains which we see in the bodies of our beloved ones. For it is in

our view horrible and repulsive to observe that they are able to cut off the heads of their dead parents or tear them from the corpses. It is so brutal and so cruel, that the mere thought of it revolts us. And yet religious feeling prompts these people to such an act as this. For they need these skulls. They need them, they cannot dispense with their possession ; they are their most cherished family treasure. The poor defunct cannot return, but is for ever separated from his family which can never be increased and multiplied unless the skull be set up in the home itself, or in the family receptacle for funereal urns, and there receive its offering at the proper seasons. This is why they must needs obtain them, even if they can only do so by the perpetration of a barbarous custom. Then they enshrine it in their homes and before they themselves enjoy a morsel, they pray the deceased member to come back into the bosom of the family, and sacrifice a portion of every grain of corn and a drop of every liquid draught to it. Then, too, when a girl of the clan gives her hand in marriage to a young man, either her father or her mother takes the newly wedded to the skull ; they offer it some food and drink, and fervently pray the dead to come back now and give his own family his power again. And the youthful wife takes of the grain which was laid in offering on the skull and consumes it. When, then, a child is granted to the young people, they hail it as their forebear come again to life." (F., 674.)

Among the pre-historic graves of Nagadeh, many instances were noted where the skull had been removed from the body, and replaced in the grave after some interval. That it had not merely been torn out by a plunderer was evident, as it sometimes contained a string of beads, in other cases it was set upright on a pile of stones, or set upright on a neat stack of all the long bones and ribs arranged in a heap. With such proofs of careful treatment, it is clear that we must credit many other instances of removal of the head as being due to the reverence of the relatives.

4. *Passage for the spirit.*—When burying those who died of smallpox, " A small reed is stuck into the side of the grave. Along this reed the disease will creep, and so escape from the body into the open air." (W., 289.) Similarly reeds were found placed in the corners of two perfect burials of the Ist dynasty at Tarkhan. This, in Egypt, was probably to allow a passage for the spirit; at Deshasheh, a small hole was cut in the rock from the tomb shaft to the place of offerings ; and at Saqqareh, Mr. Quibell has found long flues constructed from the tomb out to the deposits of offerings on the upper level.

5. *Vehicle for the spirit.*—" At old Kapeni's funeral, one of his men went into the grave after the body was laid in its place, and shot an arrow up into the air." (W., 175.) Similarly, in the Early Kingdom, the king's soul was believed to fly up to heaven on an ostrich plume, the *shed-shed*, which was doubtless let fly from the tomb, to be carried away in the wind.

6. *Restoration of ability to the corpse.*—" After the grave was dug (among the Atonga) and the body lowered into it, the chief undertaker, called 'the hyaena,' because he is not afraid to approach the dead, descended into the grave, and untied the fastening round the dead, exposing the face for a few minutes ; whatever had been brought to be buried along with the dead was arranged about the corpse according to custom, and finally arranging the grave clothes and re-covering the face 'the hyaena' climbed out again. Prayers to the dead, conducted by 'the hyaena,' with responses from the other mourners, completed the obsequies." (W., 162.)

This is closely parallel to the service of the Egyptian *kher heb*, the chief reciter who undertook the ceremony. He " opened the mouth " of the dead that the corpse

might be able to revive, and he recited all the formulae for its preservation and enjoyment of the functions of life. He specially consigned the dead to the care of the Jackal-god, Anubis, analogous to the helper of the dead being termed "the hyaena."

7. *Recess graves.*—"If a man is buried in his own house . . a hole is first dug in the floor, then a niche is made in the side of the hole." (W., 165.) "The Yaos lay their dead with their faces to the east, and with the knees bent to the chin. This is the invariable rule, and so the niche which they make in the side of the grave to receive the corpse, is dug out on the west side of the pit." (W., 175.)

Recess graves only begin to appear in the later part of the pre-historic age in Egypt, and open pit graves continued in use at the same time and in all later periods more or less. The recess was at first but slight, and fenced across with a row of large jars, on the west side of the pit; it became deeper in the Ist dynasty, and from the IIIrd dynasty onward it was a distinct chamber walled off from the shaft. (*Tarkhan* I, xxv.)

8. *Pole over grave.*—"When the grave is deep enough, stakes are driven in all round the sides, and two forked poles planted in the bottom, to receive the ends of the carrying pole (from which the body is slung) when the body is lowered into the grave, so that it is suspended without touching the ground. The space is covered in with cross-bars on the top before filling in the earth. These precautions are intended to prevent witches from getting at the dead." (W., 159.)

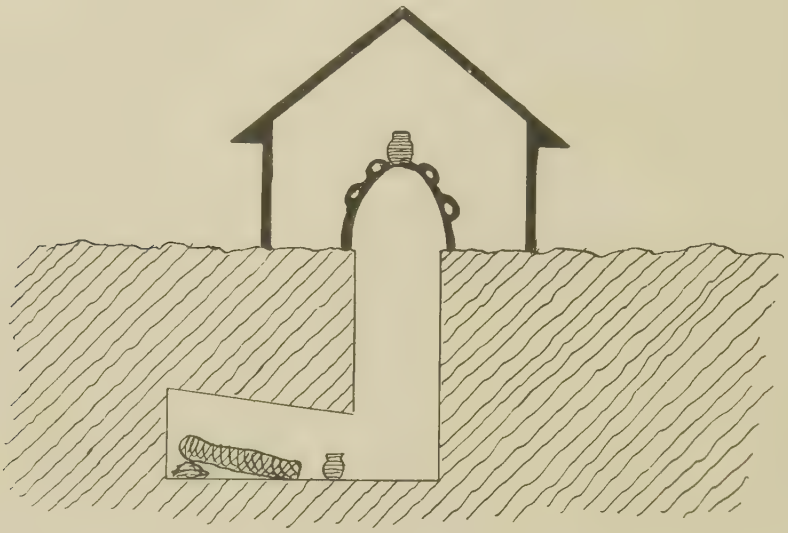
At Tarkhan, where the roofing of the graves was often preserved, the regular feature was a long massive pole across the oblong grave from end to end. It seemed strange that the roofing logs and sticks of a narrow grave should be supported by a large and valuable beam of wood, placed in the most wasteful position. It seems, by analogy, to have been the carrying pole for the coffin; like the offering vases, it could not be resumed by the living, but must be left as consecrated, and was placed from end to end of the grave to aid in the roofing of cross-bars. (*Tarkhan* I, xxiii.)

9. *Round-domed graves.*—In a cemetery near Blantyre, the graves "were not like ours, but nearly as broad as long, and looked more like rough garden-beds than anything else." Similarly, at Tarkhan, the complete tops of common graves were low-domed heaps, covered with a crust of gypsum and sand, or else by a low dome of brick and mud, circular, or nearly so. (*Tarkhan* I, xxiii.)

10. *Domed pit tomb.*—This is described as "a great conical, or dome-shaped structure of mud, on the top of which there was a vessel, which gave out a curiously hollow sound when I tapped on it. My companion pointed out a small aperture, not quite four feet high in the dome, which led into it on the western side. I held a candle into it, and saw that this conical dome had been built over a deep shaft . . . I reached the bottom at about thirteen or fourteen feet down, and discovered that other galleries, some five-and-a-half yards in length, and broader and higher towards their ends, had been driven towards the four quarters of the compass. The entire site, imposing enough of its kind, had been hewn out of the hard, tenacious fire-clay . . . .

"Graves of quite similar construction were formerly common in Nupe-land. In earlier times there were in that country huge burial caves. These have decayed, but old people alive to-day saw them and entered them when they were young. There are said to be still a few in the region of Kaba-Bunu, into which one can descend. I had heard of them in Ibadan, and often received reports on them afterwards. In Mokwa, too, they also knew of several of these burial caves. There was one of them on the site of the former ruler's palace, where the school building

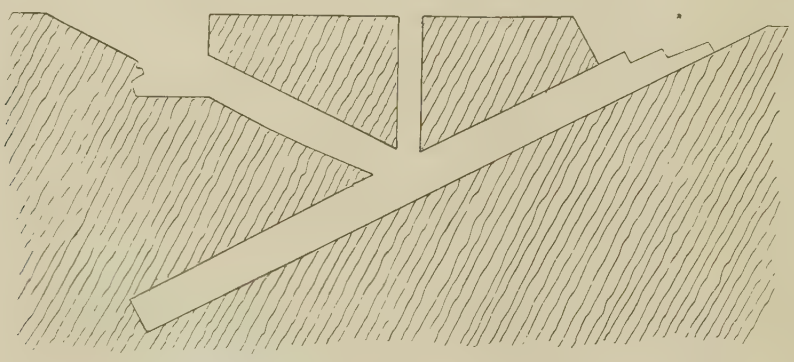
now stands. The hallowed spot is a few hundred yards to its rear. Sixty or seventy years ago the vault itself caved in. It was a subterranean cave. A circular hole gave access to it, and from this entrance lateral galleries, of about a man's height, and which were described as from nine to twelve feet in breadth, branched off in two directions." (F., 19–20.)



Grave of a Mossi-naba near Jako.
From Frobenius, *Voice of Africa*, Plate I.

This type of grave explains one of the most unusual of the Egyptian sepulchres, that of the mastaba of Zeser at Saqqareh (the Step-pyramid). There the main feature is an immense vertical circular shaft, covered over by the mastaba above, and branching into galleries below.

11. *The sloping passage tomb.*—This form is similar to the pyramid type, a long sloping passage leading down to the chamber, another passage of construction being blocked up on finishing the work. The antiquity of the idea of two sloping passages

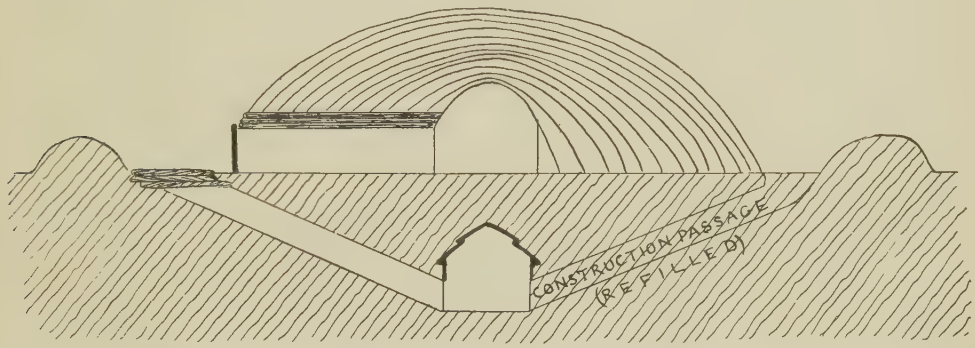


Section of so-called Trial Passages near Great Pyramid, Gizeh.

meeting is however shown by the "trial passages" near the Pyramid of Khufu; these differ from the passages in the Great Pyramid by having a vertical shaft at the junction, like the vertical tube put over the chamber in Nigeria (see section on Offerings).

"When a ruler was defunct in the pagan district of this ancient realm, a passage sloping downwards for about thirty feet from the east and west is cut

towards the hut in which the deceased is lying in state. These galleries are about six feet high, twelve yards long from their mouths to the point where they meet, and for a distance of four yards or so the walls and floor of their upper end are lined with planks of Borassus wood to prevent their falling in. But, first and foremost, a vaulted chamber is dug out exactly beneath the hut in which the dead ruler is lying-in-state; that is to say, at the coincidence of the eastern and western galleries, and its roof is built in the shape of a wicker basket, with horizontal rings and vertical ribs, and lined with straw and matting. Altogether about three hundred men are employed; one hundred and fifty of whom fell the timber, fifty plait and bind, and fifty more do the digging until the entire construction is complete."



Section of a Tumulus on the Niger Bend.
From Frobenius, *Voice of Africa*, Plate II.

"The traveller frequently sees red mounds rising on the pale yellow sandy soil in the region of the Lower Senegal and Northern Houssa-land, between 13° and 18° N., of which the oddity, artificiality, and unnaturalness must, I fancy, strike all beholders."

"The measurement of these 'red heads' varies considerably. It rises from between sixteen and seventeen feet in height and sixty-six feet in basal diameter, to nearly seventy and two hundred and twenty-one and a-half feet in height and width respectively; but their average height is thirty-six feet, and their diameter one hundred and twenty feet."

. . . . . For the fact that these are royal tombs "we should only have to turn to the pages of the old Arab voyager, El Bekri, who visited these parts in 1050 A.D., to be convinced of its truth. This admirable explorer states that the natives of these parts buried their kings in great domed buildings beneath a roof of clay, and hid them beneath an earthen mound, from whose interior a passage led into the open air in this way; sacrifices and, in fact, human sacrifices and intoxicating liquors were offered to the dead through this channel."

"Thus everything goes to prove that once upon a time these tumuli were of different kinds:

"Firstly, a small type; a clay covering built over an underground mortuary hut.

"Secondly, an intermediate type; consisting of two spaces, the lower one being a grave under the solid earth above it, and the upper one a place of sacrifice under the earth, which was piled up above it for a roof; and

"Thirdly, extraordinarily large constructions for the reception of a great number of notabilities, besides royal personages, in chambers of some size according to regulations in those cases provided.

"I shall try to describe the manner in which one of these edifices was built: First of all, passages were dug under the earth and, at their coincidence, the gallery was enlarged, as the first sketch of a building with an oval-shaped dome. This dome was panelled and strengthened with wood from the Borassus palm. This domed underground vault contained the dead man and a good many things besides. As a rule, living victims accompanied the ruler to his grave and died there, of whom accounts agree that there may have been as many as four. The number is variously stated. The eastern hole was filled in, but the western one was sealed with boards and only opened yearly to receive fresh offerings. A second and very strong dome, to which a covered passage gave access from the west, was raised on the surface exactly over the roof of the grave chamber proper. The vaulted roof and passage were made of stout stems of Borassus palm, plastered with puddled clay, and the mound was piled high over the whole."

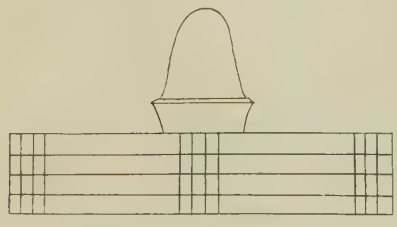
"It is clear, then, that the work was done layer by layer. Each one was sprinkled with bullock's blood, puddled and baked. As a matter of fact, the 'red-heads' in some places can be seen to be laminating, 'scaling' as a block of granite peels off in the tropics. Then a circular trench was drawn round the entire construction and connected with a purifying drain, which apparently ran eastwards. The entrance to the grave itself, which was opened but once a year for the insertion of the autumnal offering, was covered with planks laid horizontally. But on all other occasions the priests held intercourse with the dead in the upper chamber, approach to which could be gained by the covered way on the level ground." (F., 21–25.)

"In Old-Ojo the procedure is different. A trench was dug with passages eastwards and westwards, and a mound was thrown up over its central point. According to all descriptions, I may assume that this form of sepulture corresponds to that of the Binis of the Sougai, as set forth and illustrated in Chapter I" (the preceding account). (F., 184.)

The close resemblance to the principle of the Egyptian Royal Tombs hardly needs comment. There is the subterranean chamber, reached by a sloping passage; the piling up of layers of mud over it, like the pile of sand or brickwork over the early tombs in Egypt; and the temenos wall around it.

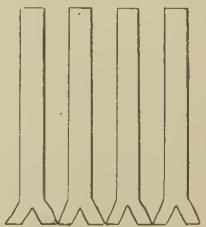
Offerings for the dead.

12. *Beer and flour offerings.*—"The offerings usually consist of native beer and maize flour . . . Usually the stones at the foot of the tree (a sacred one) support one or more pots of native beer made of millet, and there is either a little basket of



DISH OF FLOUR ON A MAT.
Hotep, emblem of peace or satisfaction.

JAR OF BEER
USUALLY OFFERED.



STRIPS OF LINEN
USUALLY OFFERED.

flour or some is poured in a heap on the ground." (W., 52–3.) Beer was one of the principal offerings stated on early Egyptian steles, and the jug used for beer is

constantly figured among offerings. The flour offering was so essential that the pan piled up with flour, and placed on a mat, became the typical hieroglyph for an offering, *hetep*, and hence arose the derived meanings "to satisfy" and "to make peace."

13. *Cloth offering.*—"Sometimes also calico (is offered) . . . It is torn in strips lest it should be appropriated." (W., 52–3.) "In all cases of prophetic announcements . . . by the high priests or kings, white baft is always offered." (L., 456.) Likewise, in Egypt, beside the food offerings, linen cloth, in narrow strips, was always offered to the dead; this is represented in the early lists of offerings, and in later times by the kings, as at Deir el-Bahri and Abydos.

14. *Offerings at the grave.*—"It is customary to bury implements, weapons, insignia of office, ornaments and other articles, . . . wooden or clay images, in addition to the sacrificial victims, human and animal." (L., 175–7.) "The deceased's personal possessions are put into the grave with him before the earth is filled in." (W., 159.)

In the sepulchral chamber of the great royal tombs with sloping passages, "four candlesticks, each of them pointing to a quarter of the compass, are set up round the body, and, as soon as the departed ruler is laid to rest and all other necessary arrangements are made, the candles are lighted. Besides this, large and small vessels of Duo—that is, drink—and all kinds of food and grain are placed to hand in various receptacles. If it was a warrior chief who here found his last abode, his bows and arrows and fly-whisk were put into the grave. In the first place, the favourite wife of every ruler bore him company . . . .

"An earthenware tube or pillar was placed in the funeral hut above the chamber in which the dead man had lain in state at first. It was erected on the exact spot beneath which his head had rested in the actual death chamber. Trenches were also cut to the north and south of the mortuary hut. These, however, did not open into the vault itself, but only served for the storage of extra food-stuffs in jugs and cups, and other articles in common use, such as tobacco pipes, ewers and even fire-wood. Such things were meant to please the dead and to refresh him when the supplies in the grave itself had run out. The wood would enable him to kindle a fire to warm himself in the cold season. All these preparations made, the eastern and western galleries were sealed on the inside with stout lattices, and the earth piled over them. The north and south galleries were also filled in." (F., 21–2.)

The parallel to the offerings made in Egyptian graves is complete. Not only are the deposits of food, of furniture, and of weapons alike, but also the providing of store rooms adjoining the burial, as in the Royal Tombs at Abydos.

15. *Killing the offerings.*—Near Blantyre "on the graves were laid broken sifting-baskets, handles of hoes, and pots, these last with a hole in the bottom of each." (W., 155.) "When all is finished, the women lay the offerings on the grave, also the deceased's water jar, in which a hole is made, and gourd drinking cup, which is broken." (W., 159.) Thus, in Egypt, offerings in tombs and graves are frequently found deliberately broken, even where buried quite out of sight and not liable to be stolen.

16. *Offering chamber above grave.*—See 11, *Sloping passage tomb*, where the upper chamber for receiving offerings is on the ground level, and was always accessible; like the funeral chapel of the Egyptian tombs.

17. *Drain to the east* from the offering chamber, see 11. This is like the drain to the east from the temple of Khufu's pyramid.

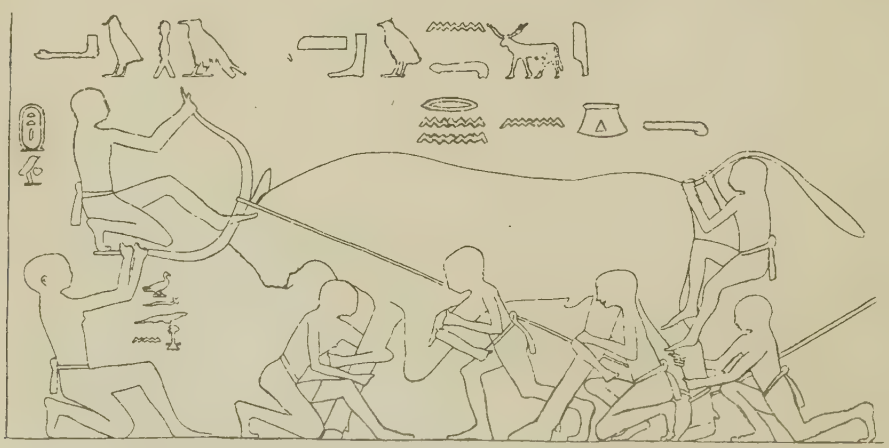
18. *Men sacrificed at royal funeral*, see 11.—"As a rule, living victims accompanied the ruler to his grave and died there." (F., 24.) "When a king dies many of his wives are thrown alive into the grave." (H., 88.) At Abydos we found that the burials which surrounded King Qa were made before the brick chambers were hard, so that the walls squeezed down over them, and it seems that the servants were killed all together at the funeral. The human sacrifices appear to have been retained in the royal burials of the XVIIIth dynasty, and the *teknu* appears to have been a mock human sacrifice in private tombs of the same age.

Eldest Son Offering.
Temple of Abybos.

19. *Eldest son the family priest.*—"The person of the eldest son as priest to the family is sacred." (L., 68.) At the funeral "the eldest son, or elected successor, ... acts as master of the ceremonies, and performs the sacrifice . . . . (along with) the sons of the deceased dressed up as priests." (L., 163–4.) "The ancient custom is . . . the first-born son represents the family in the flesh, his father the family in the spirit . . . The first-born son is considered sacred and occupies during his father's lifetime the position of family and officiating priest. When household sacrifices are to be performed, he always officiates, especially on the death of his father, in cutting the throats of the victims." (L., 395.)

So in Egypt the eldest son was the family priest, the *an-mut-f* or "pillar of his mother"; while all the sons joined in sacrificing the ox at the father's funeral, as shown at Deshasheh.

20. *The funeral image.*—"Everywhere among the Ibo, as well as among the other tribes, the same practices, therefore the same beliefs, as I have found, prevail as to . . . the necessity for the funeral sacrament in order to liberate the dormant soul from the clutch of the Death-god, and transport it from the regions of the



The Sons Sacrificing the Bull at the Father's Funeral.
Deshasheh, VIth dynasty.

dead to the land of the living spirits. Among the New Calabar people the external or ceremonial aspect of this ancient rite is much more elaborate than it is among most of the other tribes . . . One year after the death of a chief, or consequential person, . . . his son . . will secure the 'Duen-fubara,' *i.e.*, an image representing the head and shoulders of the late deceased, or his figure in a sitting posture. This, which is carved out of wood and painted with different dyes, in imitation of the face and head, surmounts a large wooden base or tray that, as a rule, is placed in a recess. It is also usual to place not more than two smaller images, one on either side, representing sons or near relations of the late deceased, who may have died subsequently to him. On this tray, and surrounding the heads, horns, glasses, pots, chairs, and as many articles of this description as can be crammed on to it, are arranged for the very evident use of the spirit father.

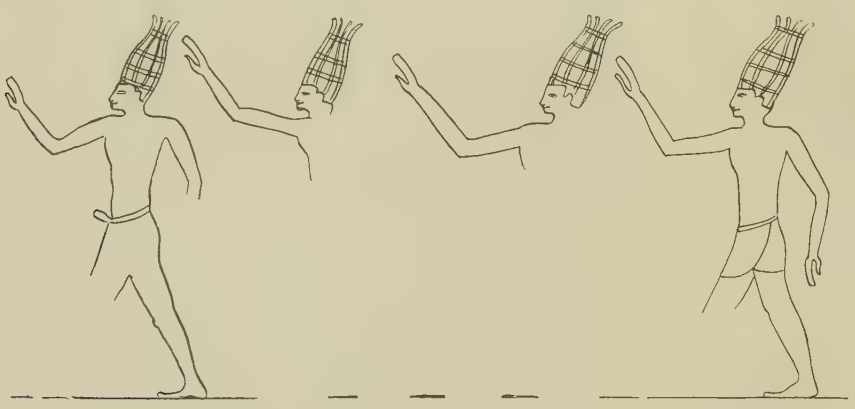
Limestone Head, as found buried in Tombs of the IVth Dynasty, in place of a whole Funeral Statue. University College, London.

"In front of this pedestal three rudely made altars of mud are erected, with a hole in the middle of each, for the purpose of throwing the food and libations that are constantly offered to the presiding spirits, who, it is believed, eat and drink of them . . . . These wooden images" are made by the people of Fuchea, "a privilege the significance of which can only be measured and appreciated after a thorough comprehension of the ancestral creed and the indispensable importance of these sacred emblems as necessary embodiments for the household spirits. The day on which the image is finished, or rather delivered, is regarded as a public holiday . . All the chiefs . . . accompany the 'Duen-fubara' from Fuchea to its destination. This is done at night, for custom forbids the landing of the sacred emblem by day. . . . On the eighth day a great sacrifice of goats and fowls is offered up by the late chief's household, as well as by all those intimate friends who hold his memory in remembrance. The eldest son, or elected successor, by virtue of his office acts as master of the ceremonies,

and personally performs the sacrifice in the presence of the people and the 'Duen-fubara,' over which, as he cuts the neck of each separate victim, he throws and sprinkles the blood; and when this portion of the ceremony has been performed, the flesh is cut up and evenly distributed among all those who are in attendance.

"Following next in order, but prior to its removal to its own proper and final resting-place, the most interesting feature of the whole ceremony takes place."

21. *The tall straw hat of the officiants.*—"The sons of the deceased dressed up as priests, their faces marked all over with the sacred chalk, on their heads the large and exceedingly high native-made straw hats, and a fathom of white baft tied round their waists . . . proceed in a body to the chief's quarter, in which the 'Duen-fubara' has been deposited." (A mock fight follows.) "The invaders are allowed to take over the now blood-stained and consecrated image. This is done in a formal manner . . . A procession is then formed, and the emblem conveyed in state to the quarter which has been prepared for it . . . . The spirit of the late liberated in his present dual capacity of spiritual head and mediator or communicator, is absolutely indispensable to the household." (L., 162–4.)



Dancers at a Funeral wearing tall hats of straw or rushes.
Tomb of XIIth dynasty. *Ramesseum*, Plate IX.

22. *The offering chamber for the image.*—"The New Calabar natives erect a new house over the remains of the late departed, the hall of which becomes an ancestral chapel in which is also deposited the 'Duen-fubara,' or image of the deceased, to whom offerings and petitions are weekly offered up."

"The Ibibio, however, erect large monuments in prominent places . . . Two small mud chambers with wooden doors that are always kept securely locked or fastened, are built at the sides for the sole use of the dead man's spirit."

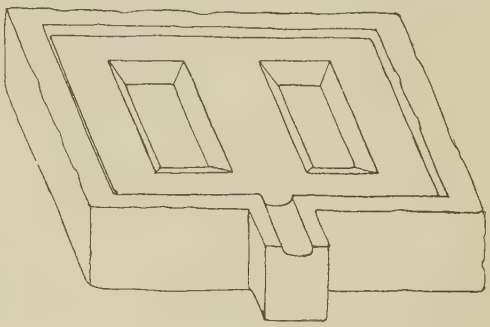
"The Aro or Inoku too, bury their nobles in prominent places . . . and offerings of food and medicines are regularly placed in two holes which are made in front of the mound." (L., 182–3.) Compare the two holes for offering on Egyptian altars.

"On arrival at the mausoleum the 'Duen-fubara' is placed in the hall or outer room of a house which has been specially built for the purpose . . . the embryo house-chapel—now consecrated by the spiritual presence, which has been previously invoked and conjured into this special emblem—is daily swept and kept clean."

"There are three prominent landmarks . . The first is that the ceremony is . . . the identical memorial service in honour of the dead which is common to one and all of these different tribes, only modified in this case with regard to human sacrifices, owing to the deterrent effect of civilised rule. The second is, . . . the

purely spiritual function of securing the passage of the soul from the land of death to the land of spirits . . . The third is that it is the consecration of the now released . . . and sanctified spirit, in his new position as spirit father and mediator of the household, a position which, apart from his own personality, entitles him to a daily adoration and a still more important weekly worship." (L., 162–5.)

"Where a new house is built over the remains (the mausoleum described above) certain things are removed (from the living house) to the new tenement, and placed along with the 'Duen-fubara' in the ancestral chapel." (L., 286.) The close parallel to the funereal figure placed in the ancestral chapel in Egypt is obvious. The image of the head alone is sometimes found in the IVth dynasty tombs, and the figure with those of the children is the regular feature of the tomb chapels, even down to the XIXth dynasty. The special tall headdress of the officiating sons, and their joint sacrifice of the funeral ox, are familiar. The tomb chapel, its altars for offering, and the worship there given to the ancestral image, are all so closely parallel in Egypt and Africa, that it would be reasonable to accept the account of the modern ceremonies as explaining to us the ancient ritual.



Typical Egyptian Altar with two holes for the Offerings.

23. *The soul house.*—"Chipoka had been a person of importance, . . . a ceremony was to take place for propitiating the old chief's spirit . . . people were busied about a group of neat miniature huts, made of grass, about two feet high. The roofs of these huts, which had been finished separately, were not yet put on, and I could see that a couple of earthen jars were sunk in the ground inside each. These jars were now filled with beer, and then the roof was lifted on . . . I have more than once seen these little spirit huts in villages." (W., 47–8.) "Of the things which the stranger can see for himself in passing through the villages the most noticeable are the little spirit houses . . . where sacrifices are presented from time to time." (W., 50.)

In the IXth–XIth dynasties in Egypt, the system of placing soul houses by the grave became common in some places. These model houses of baked pottery are of every degree, from the slightest shelters, up to two-story houses with many chambers, offerings and servants. How far such a system may have been prevalent at other periods we have no means of knowing. If made in perishable material, such soul houses as those of the modern Africans would entirely disappear.

W. M. Flinders Petrie.

(*To be continued.*)

THE NEW LAW ON THE ANTIQUITIES OF EGYPT.

UNFORTUNATELY for archaeology, the legal questions of the claims of Governments on antiquities, and the complications of dealers and valuers, are continually interfering with the progress of science. Perhaps no other subject of research is hampered with equal restrictions, legal and social. The discoverer in chemistry, in geology, in astronomy, has no Government imposing licences and demanding half or the whole of the results of his labour. If the chemist or electrician makes a discovery of commercial value, he may have both his honours and his cash for it; but an archaeologist who made any personal profit would lose caste at once.

The entire prohibition of all export of antiquities in Turkey and Greece, only produces a permanent and well-organised, though hidden, route to every European museum. The bar on exportation from Italy is almost as effective in maintaining a systematic transport. In Egypt, since M. MASPERO began his rule in 1880, a more rational claim has prevailed. The Government has only barred the export of objects really needed for the Cairo Museum, and returned the purchase money to the owner. Excavation in private land was free; and in Government land permission was given to excavate on half shares with the Museum.

Last year a new codification of the law was issued, which is of much importance to both excavators and purchasers of antiquities. The new principle which is most surprising in this law is the claim of the Government to appropriate all antiquities under the soil, in private as well as public land. This seizure of all such property, formerly private, is unexampled in any other country; no precedent exists elsewhere for such claims. The practical effect of it is to stop all the very costly clearances of deep temple sites which are in private property. Hitherto the whole returns from such sites as Memphis and Heliopolis were a scanty reward for the difficult and expensive task of working under water. If only one half of the proceeds may be received, all such work is arrested.

In the beginning of the new law it is stated that the penalties laid down only apply to persons of Egyptian or Turkish nationality. The immediate result has been the transfer of dealing, really or nominally, to foreigners. Two of the best-known dealers from the Pyramids now have a prominent shop in Cairo with an Italian name over the door. The effect of a stringent law, only applicable to natives, will be to put the whole of the dealing in the hands of Greeks, Italians, and others; and to throw all native dealers into foreign partnerships. A nominal partnership will confer immunity from the law on any native, as he can then plead agency, the property being foreign. This is altogether an unsatisfactory state of affairs.

The definitions of antiquities are of the most sweeping kind; they include all manifestations and products of arts, sciences, literatures, religions, manners and industries, of all ages down to Coptic. This definition is expanded in detail to cover not only all it might be supposed to include, but also scattered blocks or bricks, chips of stone, sand, chips of pottery, and earth from towns (*sebakh*). But the law allows that objects already in private collections, or subsequently shared with the discoverers by the Government, may be sold.

The Government is entitled to expropriate any land containing antiquities, on paying a valuation, and ten per cent. over. Any discoverer of a fixed monument is bound to inform the department, and wait six weeks to know if it is claimed.

Any portable object, accidentally found, must be given up within six days, the finder to receive half the value. If not settled by consent, this half will be settled by the Department arranging two halves, and giving the finder the choice. Or if the Department requires to keep more, then it may name a value, and, if accepted, it will then pay half to the finder; or, if not accepted, the finder must name a value, and the Department will pay half and keep the objects, or require the finder to pay half and take the objects. This procedure also applies to all discoveries made by scientific excavators.

For dealers, a permit is requisite. Every dealer must keep a day book with entry of every object over £5 in value, with all details of dimensions, material, colour, etc.; the purchaser's name is to be filled in, and every page of the register to be sealed by the Inspector of Antiquities. Nothing may be sold outside of the shop licensed, or carried about without an authorisation of the Department. The Inspector may, by day or night, raid every place belonging to a dealer, to verify his stock and register. All of this seems to have been devised without reference to practical conditions.

Regular excavations must be sanctioned by the Minister of Public Works, on the proposal of the Director, after acceptance by the Committee of Egyptology. Temporary searches for less than a month may be sanctioned by the Director. Permission will only be granted to *savants* delegated by public bodies, or to private persons who may present sufficient guarantees. This is a wide term, which has already included native dealers and other most unsatisfactory diggers. Only two sites may be held by the representatives of one body: a proviso which is already neglected. Every permit must be worked for at least two months in each season, on one or both of the sites.

Taking wet squeezes, or any other damaging process, is prohibited; but no bar is laid on tracing or dry squeezes. Many formal and minor regulations are also laid down; but those quoted here will suffice to show the main points where a purchaser or an intending excavator will come in touch with the law.

W. M. F. P.

PERIODICALS.

Zeitschrift für Aegyptische Sprache, 50 Band. 1912.

(*Continued from p.* 83.)

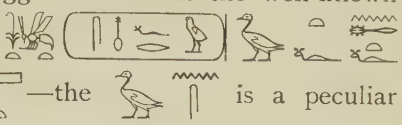
SPIEGELBERG, WILHELM.—*Demotische Inschrift auf einem Sargbrett.* (1 illustration.) The inscription, which is of the second half of the Ptolemaic Period, gives several names by which the genealogy of the owner of the coffin can be constructed.

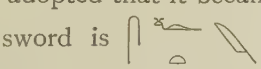
SPIEGELBERG, WILHELM.—*Ein Sargbrett mit hieroglyphisch-demotischer Inschrift.* (1 illustration.) The importance of this inscription is that the name is given in the demotic Pă-nă-nekhter or Πανεχατης, "He of the Power." The figure which is usually the determinative of a demon is here read *nekht*, "Power."

SPIEGELBERG, WILHELM.—*Eine Weihinschrift an Amenophis, den Sohn des Paapis.* (2 illustrations.) The corner of an offering table of dark granite. On the front edge is the demotic inscription: "Amenhotep, son of Hapi, give life to . . . . ."

SPIEGELBERG, WILHELM. *Χεσεβαιηον.* In an ostrakon published by Wilcken there is mention of an oath sworn in a temple called Χεσεβαιηον, *i.e.*, the temple of a god Χεσεβαι. Wilcken recognised in this word the name of the god Khons and suggested that the remainder of the name was *nb Ha*. Revillout has published a demotic text in which the name *Ptah neb Ha* is found; the demotic shows that the title was in hieroglyphs *nb oḥou*, "Lord of Time," a title applied naturally to the moon-god Thoth, and his Theban form of Khons. *Χεσ-* then is the name of Khons with elision of the *n* before *s*, of which there are several examples known. The *n* of *nb* is also elided as in *-αρβεσχινις Ḥr-nb-sekhem*. The whole name Χεσεβαι is therefore "Khonsu, Lord of Time."

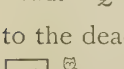
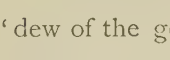
GARDINER, ALAN H.—*The Stele of Bilgai.* (1 illustration.) This stele presents many points of interest. It records the endowment of a chapel and a house dedicated to the Amon of Usermaresetepnre. The chapel appears to have been founded by a queen whose name has been carefully erased; the feminine pronouns and the feminine endings have also been effaced. The name of a Pharaoh, too, has been intentionally destroyed. As the date is of the Ramesside Period and obviously later than Rameses II, the evidence points to the queen being Ta-usert, as she is the only queen of this era who was sufficiently involved in dynastic feuds for her name to be erased by her successors. The endowment was placed under the charge of "the Commander of the Fortress of the Sea, whosoever he may be"; a curse is pronounced upon this official should he fail in his duties, and a blessing invoked upon him should he fulfil them. "The language of the stele is the mixture of the literary and the spoken dialects usual on Ramesside monuments."

SETHE, KURT.—*Das Fehlen des Begriffs der Blutschande bei den alten Aegyptern.* In *A.Z.*, XLIX, 97, Prof. Sethe suggested that in the well-known genealogy in the grave of Kha-f-Snefru at Gizeh—  —the is a peculiar writing for "their son," which shows that Snefru married his own eldest daughter. In consequence of the protest which this opinion has provoked, Prof. Sethe here recapitulates his statement, and brings forward further proofs. The tomb of the father of Kha-f-Snefru lies beside the tomb of Kha-f-Snefru himself, and undoubtedly belongs to the same Nefer-maat who was the son of Snefru and Nefert-kau. The objection, that Nefer-maat was the son of Cheops and not of Snefru, cannot be admitted owing to the fact that Cheops is so seldom mentioned in the family of Kha-f-Snefru as to be practically omitted, while Snefru is of great importance; it is altogether unthinkable that the grandfather should be honoured, while the king, beside whose pyramid the tomb was placed, should be passed over in silence. This Nefer-maat is probably the same as the prince of the same name whose tomb was at Medum, and who was undoubtedly the son of Snefru. The reason for the existence of the two tombs was probably due to the abandonment of the Medum tomb when Snefru abandoned his pyramid there. If, then, Nefer-maat was the son of Snefru by Snefru's marriage with his own daughter, it is obvious that such connections were not held in the same detestation as among the Hebrews, Greeks, Romans, and, later on, the Christians.

BURCHARDT, MAX.—*Zwei Bronzeschwerter aus Aegypten.* (1 plate, 2 illustrations.) Two swords in the Berlin Museum, both found in Egypt, and apparently of the same type, with parallel edges. One, which is complete, is of the type of sword found in North and Middle Europe, and dating to period M. III of the Bronze Age (*i.e.*, according to Montelius, 1400 to 1200 B.C.). The other is engraved on one side with the cartouches of Sety II, showing that both are of the same period. The true sword is not an Egyptian weapon; and it is remarkable that in the scenes both foreigners and Egyptians are armed with swords of Aegean and Mycenaean types, while the swords actually found in Egypt are of the North-European type. The only sword which was adopted by the Egyptians (so completely adopted that it became an emblem of victory) was the or scimetar. The true sword is  in Egyptian, a feminine word which must be distinguished from the masculine form which means a knife.

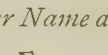
VON BISSING, F. W.—*Die älteste Darstellung eines Skeletts.* (4 illustrations.) The author discusses the opinion of various authorities on the statement of Diodorus that a mummy was introduced at the feasts of the Egyptians, and suggests that the small figure in his collection may throw light on the subject. It is carved in light-brown wood, and is $1\frac{1}{3}$ inches long. It represents an unwrapped mummy, the bones being clearly though conventionally shown as if under the skin. The case, which contains the figure, is also of wood; it is in the form of an obelisk, pierced with a hole at the top, as if it were to be worn as an amulet suspended on the person. The date is of the late period, though hardly so late as the Greek era.

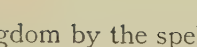
Blackman, A. M.—*Remarks on an Incense Brazier depicted in Thuthetep's Tomb at El-Bersheh.* (13 illustrations.) The object, called a fan by Newberry (*El-Bersheh*, I, Pl. XV, p. 20), is here proved to be the cover of a censer. This was suggested in 1905 by Murray (*Saqqara Mastabas*, I, Pl. XXI, p. 22). The proofs brought forward in this paper are (1) the respective forms of fans and censer-lids as shown in the tombs, (2) the actual censers and lids found by Randall-MacIver at Buhen, one lid being pierced with holes to permit the escape of the smoke, (3) the hieroglyphic determinative of the word *kop*, "to fumigate," (4) the modern practice, as experienced by both Lane and the author, of censing a guest with a censer having a pierced cover.

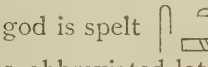
Blackman, A. M.—*The significance of Incense and Libations in Funerary and Temple Ritual.* Incense and the libations of water were offered in order to bring back to the corpse the fluid which had been dried out of it, and thus to re-vivify the dead. Quotations are given from the Pyramid Texts to show that the water offered to the dead is called  "moisture of the god," and , "exudations which issued from Osiris"; from a Middle Kingdom Text and the Ritual of Amon to show that incense is called , "dew of the god," and  , "sweat of the god." The Pyramid Texts are also cited to prove that the god in question was Osiris, and that the water used was Nile water. The author notes in passing that libations and incense were offered to the gods in the same way as to the dead; he mentions also that offerings of incense were not always purificatory, but sometimes sacramental, whereby the offerer could enter into communion with his own *ka* and with the gods and their *ka*s.

Roeder, Günther.—*Namensunterschriften von Künstlern unter Tempelreliefs in Abu Simbel.* (2 illustrations.) The author points out that the short, often roughly carved, inscriptions below some of the scenes on the north-east, east, and north walls of the pillared hall at Abu Simbel, are the names of the artists of those scenes. Names of the artists of temples and royal tombs are hitherto quite unknown, and only occasionally in a private tomb has the artist represented himself, and even then in an unobtrusive manner; it is only at a late period, and far away in barbarous Nubia, that so great a liberty could be taken in a sanctuary.

Newberry, Percy E.—*The Tree of the Heracleopolite Nome.* (8 illustrations.) The emblem of the Heracleopolite Nome is a tree from which depends a long appendage, which is here shown to be a branch ending in a fruit or flower. From the drawing of a fruiting pomegranate tree in the tomb of Meryra at Tell el-Amarna, it is obvious that it is identical with the sacred tree of Heracleopolis.

Sethe, Kurt.—*Der Name des Gottes Suchos.* The crocodile-god  , *Sobk*, becomes in Greek Σουχος, and in the construct-form Σεκ-, less often Σοκ-, Συκ-, or Σκε-. The elision of the *b*, which to us appears unusual, is well known in Egyptian, *e.g.*, , Coptic ϲⲟⲃⲧⲉ becomes Σωθις, , Babylonian *Pa-ri-a-ma-khu-u.* The change of the *b* in the name *Sobk* is shown in the New

Kingdom by the spelling  . The Greek form with *u* suggests that the name was originally *Sūbk*, with a long *ū*; the construct-form most in use, Σεκ-, must then be derived from a shortened form Σοκ-, or Συκ-. This, and other names of gods, show that the Coptic ⲱ originated in *ū*.

ROEDER, GÜNTHER.—*Der Name und das Tier des Gottes Set.* The name of this god is spelt  ; *i.e.*, Setesh or Setekh in early times, abbreviated later to Sutë. These names show that only one god is meant, and that he is identical with Sutekh. The animal of Set is a fabulous one, with possibly a traditional reminiscence of the giraffe. It is still uncertain what is meant by the equation of Set with the giant Antaios. Sethe has proposed *entayye* as the name of the god of Antaiopolis, and von Bissing sees in Antaios as Set the representative of earth-born strength and barbarism.

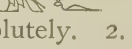
EMBER, AARON.—*Notes on the Relation of Egyptian and Semitic.* A continuation of a previous paper on "Semito-Egyptian Sound-changes," in which the author "assumed that Egyptian was a Semitic language, but that, owing to numerous and extensive phonetic changes, and moreover to the influence of African non-Semitic languages, its relation to the other Semitic languages has to a great extent become obscured." Both in this and in the previous paper the author points out that one of the most striking of the sound-changes is the change of the Semitic R and L to (Sem. *aleph*). In many words the Egyptian = Sem. R has disappeared, though it re-appears in Coptic. The Egyptian name of the hippopotamus *db* is identical with the Assyrian *dabu* "pig." This identification shows the reason why the Egyptians called the hippopotamus-goddess *Rrt* "Sow" [and also why the animal which represents Set in the reliefs at Edfu is called a hippopotamus in the inscriptions and represented as a pig]. The paper concludes with a list of kindred Semito-Egyptian words: e.g., *śm* "herb, plant," Assyr. *šammu* "plants"; *kku* "darkness," Assyr. *kukku* "darkness"; *pkhr* "to surround, go around," *pkhru* "troop of soldiers," Assyr. *pakhâru* "to assemble," *pukhru* "troop of soldiers," *pakharu* "a potter."

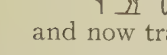
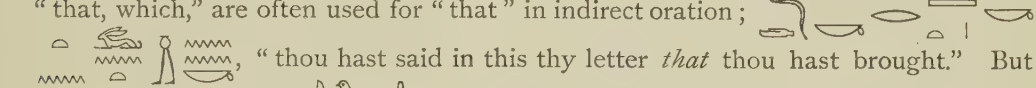
SETHE, K.—*Hand.* 1. In the or of the Pyramid Texts, which becomes or in the plural and with suffixes, we find the original form of the Coptic ⲧⲟⲟⲧ-. From demotic and Coptic it appears that the absolute form is , ⲧⲱⲣⲉ, and the pronominal form . There is, however, this difficulty: how did the obtain its value *d* if the word originally began with . It might be argued that in primitive times there was but the one sign for *d* and *z*, in the same way that there was but one sign, , for *n* and *m*, and one, , for *kh* and *sh*, but as in the Pyramid Texts the sign is constantly used with the value *d*, this argument falls to the ground. Dr. Ember has, however, given the true explanation. There is in Egyptian a word , *udy*, "to lay, set, throw"; this is written in the Pyramid Texts and Old Kingdom generally, with a few fixed exceptions, without the , therefore, with the hand only. The

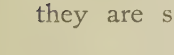
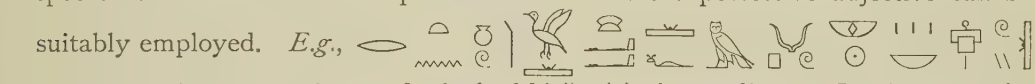
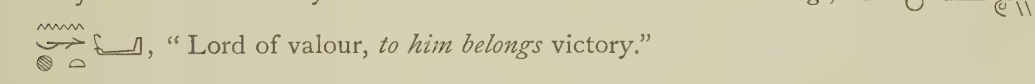
verb is connected with the Sem. *yad*, "hand" (Babyl. *idu*), especially with the idea "to lay, to give." The Egyptian possessed, like the Semitic, a word for "hand," which had originally the consonants *yd*. From this word the picture of the hand naturally obtained the value *d* after the *y* had lost its consonantal value. The loss or change of the consonantal *y* can be paralleled in several Egyptian words. This word for "hand" was lost early (as was the case with other words) and was replaced by the above-mentioned *zrt*; but a denominative verb remained , "to set, to give." From this is derived another verb , "to throw down." From comes, by metathesis, , "to give."

2. Erman, Brugsch, Max Müller and Burchardt are of opinion that is not truly *d*, but corresponds to the Semitic ט, and Meyer says that "die dentale Media dem Aegyptischen von Anfang an fremd gewesen sei." It is quite true that, from the New Kingdom on, the Egyptians had neither *d* nor *g*. But this was not the case originally; it is certain that in early times, Egyptian possessed both *d* and *g* like other Semitic languages. The change appears to have taken place between the Old Kingdom and the Middle Kingdom, at the time when became .

SETHE, K.—*Hier und dort.* The old Egyptian , and the new Egyptian or , are used with the meaning "here" and "there." Spiegelberg was the first to recognise the Coptic ⲧⲁⲓ "here," in . The Coptic word is also connected with the demonstrative ⲧⲁⲓ, ⲧⲏ, "this, that"; but as in Boheiric the ⲧ in this word is not aspirated, it is certainly derived from an original . The Boheiric also shows that the ⲓ in ⲧⲁⲓ is derived not from , but from or ; for according to the laws of phonetics the short vowel ă of Boheiric becomes ⲏ before , while it holds its position before or . The element , with the sounds ⲁⲓ and ⲏ, which our word has in common with the demonstrative pronouns, represents a special word with the meaning "here" or "there," when compounded with an adverbial sign . The earlier word belongs exclusively to the Middle Kingdom and to the hieroglyphic texts of the XVIIIth dynasty. Here it is obvious that is used for , showing that the earlier and later words have the element in common; and it is equally obvious that both words contain the sign for a hand or arm. Like every other language, Egyptian uses the hand or arm to express the side or direction [*e.g.*, right-hand side].

ERMAN, ADOLF. *Die aegyptischen Ausdrücke für "noch nicht," "ehe."* The author gives a summary of his arguments and conclusions at the end of his paper. 1. The old form is , "while he had not yet heard, before he heard." This form can be used absolutely. 2. In New Egyptian, the later negative is used; and in order to show that the is to be sounded, it is written . The particle often precedes the negative. 3. Even in New Egyptian, the auxiliary is used:  . From this the Coptic ⲙⲡⲁⲧⲣⲥⲱⲧⲙ is derived.

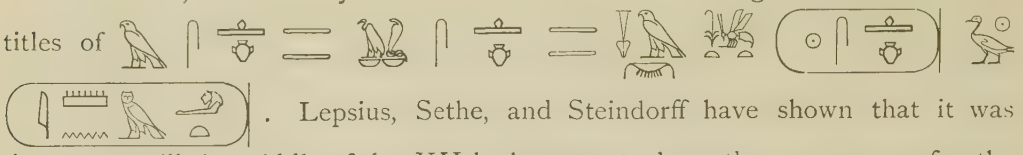
SETHE, KURT.—*Zum Negativadjektiv.* The negative adjective , from which the Coptic ⲁⲧ- is derived, reads , sometimes written  . Though Erman was the first to point this out, he has since changed and now transliterates it as *niwti*. This is due to a misreading of the Pyramid Texts, where in the sentence , the is causal, and the phrase should read "because there is not." The two neuter expressions and , "that, which," are often used for "that" in indirect oration;  , "thou hast said in this thy letter *that* thou hast brought." But in a negative sentence is used instead of *ntt* or *wnt*.

GARDINER, ALAN H.—*A late Egyptian use of the older absolute pronouns.* Like the late absolute pronoun , and the rest, the early absolute pronouns can be used in a possessive sense. This occurs only in late Egyptian, when they are spelt  and ; though when used in the ordinary way they keep the earlier spelling and . This points to a probable difference in pronunciation. These pronouns are used: (1) After a substantive, when for some special reason neither the simple substantive nor the possessive adjective can be suitably employed. *E.g.*,  "whenever he appears in any festival *of his*." (2) As predicate. In this case the subject follows and may be either a suffix or a substantive. *E.g.*,  , "Lord of valour, *to him belongs* victory."

BURCHARDT, MAX.—*Das Herz des Bata.* The idea of a heart outside the body is known in Scandinavian "märchen," where the giant's heart is inside an egg, which is inside a duck, which floats on a deep well in an inaccessible church. Should the duck be caught, it would let the egg fall into the fathomless depths. This was in order that no one should obtain possession of the heart, and thereby destroy the giant. In the case of Bata the heart is not only laid in the flower of a cedar-tree, but is disguised as a bunch of grapes. When the tree is cut down at the instigation of his faithless wife, Bata dies on the spot. A parallel for his resurrection is found in a Hottentot "märchen." In this story, a maiden is killed and eaten by a lion; the girl's relatives succeed in killing the lion, and, taking her heart out of the lion's body they place it in a calabash and pour milk over it, when the girl comes to life again. In the same way Bata is brought to life by placing his heart in a cup and pouring water over it.

Miscellaneous.

1. SPIEGELBERG, W.—Note on a tombstone of a military commander Antef, who accompanied an ancestor of the XIth dynasty on a campaign.

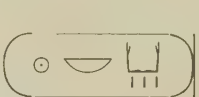
2. PIEPER, M.—Daressy has discovered a table of offerings with the name and titles of  . Lepsius, Sethe, and Steindorff have shown that it was the custom, till the middle of the XIIth dynasty, to have the same name for the Horus and *Nebti* titles, after which, the custom was changed and never came into use again. Steindorff even states that there is no exception to this rule. That a king should change his name during his reign is not an unheard of event, and as no two kings ever took the same names for the throne- and personal-names it is evident that this offering-table belongs to Amenemhat I of the XIIth dynasty, and not to the Sehetepabra of the XIIIth dynasty.

3. BURCHARDT, MAX.—In the trial of the tomb robbers, two tombs are mentioned, one of Seqenen-Ra Ta-āa, the other of Seqenen-Ra Ta-āa-āa, whose tomb is expressly said to be on the north of King Ta-āa. There are in fact said to be three kings Seqenen-Ra, who are distinguished from one another by the addition of āa and qen to the personal name Ta-āa; but except for the notice in the Abbott Papyrus there would be no difficulty in equating these kings. There would appear to have been two graves in which the royal name Seqenen-Ra Ta-āa occurred; one being that of the king. That it was possible to mistake the tomb of a noble for that of a king owing to the occurrence of the royal name, is seen in the inscriptions of the scribes who visited the tomb of Khnumhotep at Beni Hasan "in order to see the temple of King Khufu." As also there is no known example of two kings having the same throne- and personal-names, the conclusion is inevitable that there is only one king Seqenen-Ra, not three.

4. BURCHARDT, MAX.—A proper name, , published by Spiegelberg, shows the name of the god Mithra; the second part of the name is a form of the verb *šemu*, to hear. The whole name therefore means "Mithra has heard."

5. BURCHARDT, MAX.—A note on Egyptian proper names in Semitic form. The name חפיר is translated by Spiegelberg as *ḥapy-āa*. But a single ר cannot be equivalent to , therefore the author proposes as a translation *The God N. comes;* the name being formed on the model of and .

6. MÖLLER, G.—In ancient times the ordinals as well as the numerals used in dates are written horizontally, thus ⊂≡, whereas the ordinary numerals are written vertically. It is possible now to prove that the date-numerals are ordinals, from the example in the Lamentations of Isis and Nephthys.

7. NEWBERRY, P. E.—King  , mentioned in ll. 71, 72, of the Eloquent Peasant, is usually considered to be otherwise unknown. But this is doubtless the Herakleopolitan king, whose name occurs on a weight found by Prof. Petrie at Tell Retabeh.

8. NEWBERRY, P. E.—The nome , which occurs in the inscription of Methen is not in the Fayum, but is the same as the of the Eastern Delta. is a rare word for a crocodile occurring in New Egyptian. The capital of this nome was Tham at the end of the Wady Tumilat, and near Lake Timsah, the lake of crocodiles.

9. SPIEGELBERG, W.—Sethe's new reading of the word for the king of Upper Egypt, *nï-swt*, explains a proper name which occurs on a funerary papyrus at Turin (Catal. No. 1854). This name is written either or . It would seem that the variant is an attempt to give the vocalisation of the words. When compared with the Babylonian equivalent of the Royal title *in-si-ib-ya*, the close connection of the two is very clear, with the exception of the interchange of ש for נ.

10. SPIEGELBERG, W.—Burchardt, in the last number of the *Zeitschrift*, has suggested that a word *ksrḫiḫ* in the Demotic Chronicle stands for the name Xerxes. This cannot be the case because the word is not in a cartouche, and the Demotic Chronicle invariably puts royal names in a cartouche. The first part of the word also is destroyed, and all that can be read with certainty is *ḫiḫe* = עפר : קאיר "Dust."

M. A. M.

REVIEWS.

Museum of Fine Arts Bulletin. April, 1914. No. 69. 18 pp., 26 figures. 10 cents. Boston.

This contains another of Dr. Reisner's welcome reports. At the Third Cataract he excavated a frontier post of the Egyptians, dating from the VIth dynasty to the Hyksos Age. A great brick fort and houses around it produced but little result; but the tombs of the Hyksos Age were rich and well preserved. They are distinguished by the pottery, which is of the very thin brilliant red and black ware, like that found in a grave of the XVIIth dynasty at Thebes (*Qurneh*, Pl. XXVIII). Rams' heads are buried in the graves, recalling the animal heads in the Pan-graves (*Diospolis*, Pl. XXXIX). Each great man lay on a bed which had carved bulls' legs, and with many slave burials in contracted position, around him in a circular pit. The people were broad headed and straight haired: they belong to some unrecorded invaders. The most interesting objects found are the bone and ivory inlays in the form of animals, and the similar figures of mica which were sewn on the dresses. The other objects accord with what was used in Egypt at the time.

Studies in Palaeopathology in Egypt.—By Dr. M. A. RUFFER. 14 pp., 6 plates. (*Journal of Pathology*, 1913.)

This paper describes the state of Coptic mummies from Antinoe. The teeth were remarkably bad, as are those of Roman mummies from Saqqareh, and the modern Alexandrian. Pyorrhoea was common, and large abscesses. Local outgrowth on the spine and other bones was frequent, and in the nose it sometimes choked the passage. Altogether the later period seems to have been more unhealthy than the earlier ages.

L'Égypte Monumentale et Pittoresque.—Par CAMILLE LAGIER. 8vo, 240 pp., 48 plates. 1914. (Vromant, Bruxelles.)

In this popular volume Père Lagier gives the travelling impressions of a scholar who already knew the meaning of all he saw, and he has made a pleasant outline of general interest for the French public. It is well illustrated with 48 excellent blocks of Dr. Capart's series, which are boldly printed on *both* sides of faced paper, with but little loss of quality. We can only regret that the author misrepresents all the Protestant Copts as being moved solely by the "dollar"; any knowledge of them would have shown that education was the cause of their religious attitude, which is of no possible benefit to their position.

Les Écritures Égyptiennes et l'Antiquité Classique. Par P. MARESTAING. 8vo, 143 pp. 7 frs. 50. 1913. (Geuthner, Paris.)

This is a collection of the references to Egyptian writing by the classical authors. The interest of the study lies in showing the extent to which the writing was understood in late times; but in no case does it aid in modern study of Egyptian.

Étude critique sur un Acte de Vente Immobilière.—H. SOTTAS. 8vo, 21 pp. 2 plates. 2 frs. 1913. (Geuthner, Paris.)

This is a discussion of the well-known deed of sale of a house found at Gizeh. The question is of the order of the columns, without greatly affecting the sense. This document of the IVth dynasty, and the decrees of the Vth and VIth show how gradual was the rise of fixed rules after the early period of confused writing, as on the panels of Hesy.

The Nubian Texts of the Christian Period.—By F. LL. GRIFFITH. 4to, 134 pp., 3 plates. 1913. Berlin. (*Abhandl. Königl. Preuss. Akad.*)

This is a great work restoring to our knowledge the earlier form of the Nubian language, from documents dating between the eighth and eleventh centuries A.D. Mr. Griffith gives the complete texts of the five long documents, and many fragments that are known, with full translations, and grammar, and a vocabulary, so far as the materials permit. The interest is almost entirely philological at present, as the documents are much like the usual mediaeval Coptic literature. It is pleasant to observe the acknowledgments of Dr. Schäfer's previous work, much of which, yet unpublished, he magnanimously supplied to the author with his well-known courtesy.

Catalogue des Antiquités Égyptiennes recueillies dans les fouilles de Koptos en 1910 *et* 1911.—Par ADOLPHE REINACH, 1913. (Musée Guimet de Lyon, 3 fr. 50.) 18mo, 132 pp., 37 figures.

This is a useful list of the antiquities of all periods from Koptos, now preserved at Lyons; it does not include the early decrees and other monuments kept at Cairo, nor others now in the Louvre. The most unusual objects are the Palmyrene steles found together in one house.

Égyptologie et Histoire des Religions.—Par ADOLPHE REINACH (*Revue de Synthèse Historiques*, XXVII, 1, 2), 1913. 8vo, 56 pp.

This is a detailed review of Prof. Foucart's recent book on the comparative method in the study of religion. We cannot venture to give here an abstract of a diffuse volume of 450 pages, commented on by 56 pages of review. Broadly speaking, M. Foucart regards the long historical development of religion in Egypt as more valuable to us than the far more detailed and precise knowledge of religions over a shorter period, or in modern times. He would rather explain the present position by the far slighter information that we can gather over remote ages. In this he attacks the position of Frazer and other writers of the anthropological school. M. Reinach, while recognising various lines of thought emphasised in the work, cannot at all agree with the general position. The whole matter is treated, on both sides, as a debate on opinions of others, instead of an argument on basic facts; it cannot be discussed profitably without rivalling the length of the works in question.

Ancient Egyptian and Greek Looms.—By H. Ling Roth. 41 pp., 39 figures and plates. 2*s.* 8*d.* (Bankfield Museum, Halifax.)

This is the first detailed study of Egyptian looms, and a treatment of the facts by a specialist was much needed. Every example of drawing has been utilised; and in some instances four or five different copies have been compared, and are republished here, from the best modern sources. The main conclusions are that the horizontal loom on the ground is the earlier in Egypt, the vertical loom not coming in till the XVIIIth dynasty, although it is the only loom in Greece and some other countries. A point still to be cleared up is the title of the overseer of the weaving at Beni Hasan. It is rendered by Prof. Newberry "Superintendent of canals" (*B.H.*, I, p. 48). This seems very unlikely; and the sign looks as if it might be the loom with two end beams and threads between, the lines being straight in Wilkinson's copy. If so, it might read "Overseer of the loom ground," in accordance with the scene; and then the determinative of land would be very appropriate for the space covered by the flat looms. Various pieces of looms in museums are also illustrated here and discussed.

The Decay and Preservation of Antiquities.—By Prof. Dr. F. Rathgen. 16 pp., 8 plates. 1*s.* (The Museums Journal, Nov., 1913.)

Very few curators understand the first stage of their business, the material care of the objects for which they are responsible. The most ghastly disasters stand unblushingly in our Museums: objects dropping to pieces, fading, and perishing. The commonest wreckage is caused by placing stones which contain salt against a wall with cement. The whole face is certain to perish, and yet this is done in museums from the highest to the lowest. Dr. Rathgen here gives much valuable advice, gathered in his museum workshops at Berlin. His methods are sound from a chemical and mechanical standpoint, but sometimes rather elaborate. Every curator should understand the use of paraffin wax as a preservative and strengthener; the simplest way of cleaning bronzes, by placing with some scrap zinc (or even iron nails) in vinegar or soda solution; and the extraction of salt by soaking, or, better, by laying a stone face down on wet sand and scraping the salt away as it comes out on the back. These simple ways will apply to the majority of cases. The latest improvement is to use non-flam. celluloid solution in place of the old oils and varnishes. When the applications of chemistry are rightly made the first necessity in the training of a curator, fewer regrettable incidents will occur in our museums.

Engineering of Antiquity and technical progress in arts and crafts.—By G. F. Zimmer, A.M.Inst.C.E. 8vo, 89 pp. (Probsthain.)

This book draws its illustration mainly from Egyptian sources. With the technical knowledge of the author, such a work might have been made of the greatest value, but unfortunately his knowledge of the ancient world is inadequate. The first chapter is on the antiquity of iron. This begins with Tubal-Cain, mythical Chinese records of 2000 B.C., and Homer, quoted as authorities; and the age of iron in Egypt is settled by Herodotos saying that it was used in building the pyramids. Not a word is said about the earliest abundance of iron tools in Assyria, or the various instances of dated iron back to pre-historic times in Egypt. For the age of tin and bronze, there is nothing quoted later than Gardner Wilkinson, nearly eighty years ago. For tools, Belzoni, still further back, is the

only definite authority. An illustration called "Egyptians making glass" is repeated four times, but it shows the blowing of a furnace, and has nothing to do with glass. The devices for lifting stones are taken from Choisy, and are hopelessly futile, and without any evidence. Pottery is stated to have been "in use prior to the arrival of Joseph in Egypt." The author seems never to have heard of the long series of pre-historic pottery. It is truly unfortunate that such a book should be issued in the present day without any knowledge of the mass of information that has been acquired in the last fifty years.

Beiträge zur Kenntnis des Gewerbes im hellenistischen Aegypten.—Doctorial thesis of THEODOR REIL. 1913. 211 pp.

This valuable work is a handbook to the whole of the industrial details of the Greek papyri from Egypt. The first section is on the relation of industries to the State (by Monopolies, Taxes, and Customs), to the Temples, and to private enterprise. It would have been well to look a little beyond papyri, and to include such stone documents as the Red Sea customs tariff (*Koptos*, 27) and the Diocletian edict of prices, which are all-important for the subject.

The bulk of the work is a compilation of all references to each trade in order, and a tabular statement of all prices recorded in each kind of work:—Masons, builders, brickmakers, potters, glassworkers, jewellers, smiths, plumbers, carpenters, weavers, dyers, fullers, embroiderers, and tailors. The social condition of the trades is then discussed. Further are papyrus-workers, oil and salt duties, millers, bakers, butchers, fishmongers and brewers. Then comes the study of women workers and slave labour, and the labour unions in different ages. The writer is so saturated with his subject that he has forgotten to give a list of his many abbreviations; and even in a table of references to his various sources, he only gives them in the same form of initials. On referring to the brickmaking, the prices given do not include those published by Prof. Mahaffy, of 15 and 16 drachmas per myriad (Petr., II, pp. 48, 51). The price of bricks is an excellent economic standard, as the material of Nile mud and sand is fairly constant, and there are no complications of trade. The early Ptolemaic drachma might be worth 6*d.*, so the lowest price, 10 drachmas = 5*s.*; later on a triens = 4*s.*, is the price of a myriad bricks. At the present day about 8*s.* is the lowest price. Thus we may say that gold and silver were in classical times worth the double of what they are now. A higher rate might have been expected, looking at the economic mining with modern machinery. This book covers untouched ground, and will be an invaluable guide for all studies on ancient economics and prices.

The Miraculous Birth of King Amon-hotep III, and other Egyptian Studies.—By COLIN CAMPBELL, D.D. 8vo, 204 pp., 57 figures. 1912. (Oliver and Boyd.)

Dr. Colin Campbell has taken up the useful function of expounding the monuments, a matter too often neglected by scholars who are only thinking of their own standpoint. The main subject begins with the belief in the divine descent of the kings; first the Horus descent, shown by the falcon; next the Ra ancestry of the Vth dynasty; then the Amen ancestry of the XVIIIth dynasty, which was also compatible with the kings being called child of Aah, of Tahuti, and of Ra. The scenes of the birth of Amenhotep III, in the temple of Luqsor, are described in detail, throughout the fourteen subjects, nearly all of which are shown in photographs. The same subject of divine birth occurred also in parts of the Ramesseum, now destroyed. There is next a description of the eight scenes of

coronation of Amenhotep III; and a description of the adoration of Mut. The Osirification of the king at the *sed* festival is closely on the lines already stated in *Researches in Sinai*, and in *Qurneh*.

It has long been a reproach that the most interesting series of processional sculptures on the wall of the colonnade at Luqsor have not been published or photographed. In this book there is a full account of the scenes, but unfortunately the photographs are too small to examine the figures, in most parts. The subject of a great procession of the god Amen from Karnak to Luqsor, seems to have been on the occasion of the great re-instatement of Amen by Tut-onkh-amen, though the work was later appropriated by Haremheb. It is full of interesting detail of a great religious festival and its collateral exhibitions, and it is greatly to be hoped that it will be all fully photographed on a large scale.

The tomb of Sen-nezem is described with fourteen views showing many interesting mythological figures. A curious oversight of the tomb painter was drawing a double door with the two hinges in the middle! Lastly, the tomb of Pashedu is described with three views.

NOTES AND NEWS.

THE interesting building which Prof. Naville has uncovered, and described in a paper here, is in several respects still an enigma. The exterior of it is yet quite unknown; the collateral buildings around it have yet to be disclosed, and their connection with it to be studied; the original entrance to it has to be found,—all of these further discoveries are needful to understanding the meaning of the large constructions now brought to light. The more pressing question is that of the depth and nature of the deep space around the central block of the hall. That this now reaches water at 14 feet below the floor, shows that originally the floor of the hall was at least 30 feet, or 35 feet, above water. That the water level has risen at Abydos, as in the rest of Egypt, is proved by the Ist dynasty temple being at the lowest known water level now. As it must have been dry originally, the water level must have risen at least the whole height of the present inundation changes. To know the depth of the space is therefore essential to understanding whether the building originally had water in it, or was dry.

The projecting ledge around the walls and the central block is well seen in the lower photograph. It appears cut square; and, if so originally (though now rounded in parts), we can hardly but see in this the sides of a floor that was once continuous, and has been extracted by the stone hunters. Or it may be that the building was never completed in this part. The stairways appear as if intended to reach a lower construction; they certainly never reached water as they now are. At their lower ends, opening into the deep trench, it may be that they continued in a structure of fine limestone which filled the trench with subterranean passages. It is evident that there is a great deal to be uncovered before we can see the meaning of this curious cyclopean building. We hope all those who have so successfully carried out this year's work will continue the future clearance of this site completely.

Prof. Steindorff has had a successful season at Anibeh in Nubia. He has opened a cemetery of the XIIth dynasty, with burials of Reisner's C group type. About 250 graves have been cleared, and much fine pottery was found. A fort of this age protected the settlement. There was also a town of the XVIIIth dynasty, with a temple. We hope in our next number to give a full account from the excavator.

Lord Carnarvon's work at Thebes has—amongst other matters—been turned to the site of the tomb of Amenhotep I. The attribution of this large subterranean work is certain, as the vases with the king's name have been found in the passage by Mr. Carter.

At Antinoe, Mr. Johnson has succeeded in rescuing some more papyri, including the leaves of Theocritus lately described in the *Times*.

THE PORTRAITS.

THE series of seated figures of Senusert I is one of the most striking parts of the Cairo Museum. The highly finished work, and the perfect condition of these ten lifesize figures, fixes them in the memory. They were prepared for the offering court of the king's pyramid at Lisht; taken there, they were laid carefully on their sides awaiting the completion of the building. The king died too soon, Amenemhat II had other cares, and did not complete the temple of his father; thus the statues were left, perfect and unused, until uncovered twenty years ago. At first sight a visitor sees such differences of expression that the accuracy of the portraiture might be questioned; but if the fixed points, such as the profile, are carefully noted it will be seen that the ten statues are identical. All that varies in them is the natural fluctuation of a vigorous face in different moods, and it must be remembered that they have not received the inspiring touches of the artist's finish, they are but drafted out and not yet vitalised. The close resemblance to the portraits of Senusert elsewhere, such as at Abydos or Koptos, in contrast with the difference from other kings of this age, shows how really individual is the portraiture.

The second portrait is the head of Senusert II found in the great pit of Karnak, broken from a statue of his in red granite. Unfortunately, the profile is not published, but the resemblance of type to that of the adjoining profile head from the temple of Lahun confirms the accuracy of both. Every statue should be published in at least three views, full face, profile in the plane of the lips, and a three-quarter view to show the facial curves. The double uraeus on the head should be noted; at this period a double function of the king was prominent, there are the shrines with two statues of Amenemhat III, and other instances, probably referring to the Southern and Northern dominion. The adjoining head, shown of full size here, is the only perfect profile from the king's pyramid temple. A head, larger, but with the nose injured, was found by me in 1889; it passed to Mr. Kennard's share of that excavation, and was sold at his sale on July 16, 1912.

SENUSERT II. Temple of Lahun.

SENUSERT I, LIMESTONE STATUE, LISHT, CAIRO MUSEUM.

SENUSERT II, RED GRANITE HEAD, KARNAK, CAIRO MUSEUM.

AREIKA 26.2.

KARANOG 51. 8468.

KARANOG 51. 8477.

KARANOG 46. G 100. 8176.

AREIKA 25.7.

KARANOG 81. G 253. 8492.

NUBIAN BISCUIT-WARE.

ANCIENT EGYPT.

THE BISCUIT OR EGG-SHELL WARE OF THE SUDAN AND CHINA.

(*Frontispiece.*)

SOME of the most beautiful pottery ever made is that to which I have given the name of "biscuit-ware" and which was manufactured in the Sudan. Dr. MacIver's excavations in Nubia first made us acquainted with it; since then I have found fragments of it on various Meroitic sites in the Sudan—such as Kerma, and Kawa—and large quantities of it have been discovered by Prof. Garstang at Meroe. We now know that it is to Meroe that we must ascribe its origin. The kaolinic clay of which it is composed is found in the neighbourhood of that locality; the clay was first noticed by Major Rhodes and myself at Umm Ali, ten miles north of Meroe, from which most of the building stone of Meroe was brought.

The ware is very fine, hard, and thin; but it is not translucent, nor is it so resonant as Chinese porcelain. Otherwise it closely resembles the biscuit and "eggshell" china of the Far East. The paste is usually white, sometimes creamy, and is often covered with a thin red wash. A large proportion of the ware is painted in different colours. The designs are usually realistic, representing flowers, ivy or vine leaves, birds, and the like. But besides the polychrome pottery, there is also a good deal of stamped pottery, lotus-flowers, the Egyptian symbol of life, rosettes and similar designs being impressed upon the clay. The painted designs can be traced back to the Greek pottery of Naukratis; the stamped pottery seems to have been imitated from Aretino ware. The specimens found in Nubia are naturally provincial and much inferior to the pottery of the capital; the clay is comparatively poor, and the decoration betrays the hand of the imitator.

The period during which the ware was manufactured at Meroe extends from the third or second century B.C. to the third century A.D., and its northern limit is that of Sudanese influence in Nubia. In fact, it is not met with even in Northern Nubia, so that its northern limit may be described as the southern boundary of the Roman Empire.

The origin of the ware has, I believe, been discovered by Prof. Garstang. He has found fragments of vases and bowls similar to those afterwards made in the biscuit-ware, but consisting of ostrich egg-shell. Many of these fragments are painted in patterns which are the same as those of the polychrome biscuit-ware, and there can be no doubt that he is right in thinking that the egg-shell vessels were the primitive models afterwards imitated in clay. The Meroite potter discovered that the kaolinic clay occurring in his neighbourhood enabled him to reproduce the cups and bowls of egg-shell which had been previously in use.

Now there is only one other part of the world in which similar ware is found. This is China, the egg-shell porcelain which is now made in Japan being a modern imitation of the Chinese. Like the Sudanese, the Chinese potter had at his disposal an abundance of kaolinic clay. But that he was never led independently to take advantage of this is shown by the fact that all the pottery found in the early graves of China is thick and somewhat coarse. It was imitated, not from egg-shell, but from metal and lacquered wood.

Nevertheless, a period comes when "biscuit" or "egg-shell" china suddenly makes its appearance among the Chinese. Thus far nothing of the sort has been discovered with certainty in graves which are older than the T'ang period (A.D. 618–906), though I have seen a specimen which was said to have come from a grave of the Sui period (A.D. 581). The literary evidence, however, tends to show that "egg-shell" china must have originated in the period between the close of the later Han (A.D. 265) and the rise of the T'ang, though until the early cemeteries of China are scientifically excavated, the exact date of its first appearance cannot be accurately fixed.

Dr. Bushell tells us that "there are abundant references to porcelain in the voluminous literature of the T'ang dynasty" and that "the poets of the time liken their wine-cups to 'disks of thinnest ice.'" The Arab traveller Suliman in the ninth century (A.D. 851) describes the vases he had seen in China which were "as transparent as glass; water is seen through them";[1] and similarly thin, semi-lucent ware was actually imitated at Cairo in fayence some two centuries later.[2] At a later date (A.D. 955) the Chinese emperor issued a rescript ordering porcelain to be made "as thin as paper." This T'ang ware must have had an ancestry of some length.

It is a far cry from China to the Sudan, but during the past winter the distance has been unexpectedly bridged over. Among the documents brought back from Western China by the Pelliot expedition are some belonging to the Anterior Han dynasty (206 B.C.–A.D. 24) describing trading voyages to the West. The voyagers made their way to the coasts of Huang-chi or the Kingdom of Axum, and the journey occupied from ten to twelve months, as various ports were visited on the way. Between A.D. 1 and 6 a special embassy was sent by the Chinese emperor to the king of Axum with gifts and merchandise, and a request for the horn of a unicorn, which was duly despatched in the shape of a horn of the African rhinoceros.[3] Among the articles of commerce carried by the Chinese to South-western Asia and the African coast, as we learn from Chau Ju-Kua,[4] were pottery, and, at a later date, porcelain, and what the merchants and sailors were able to carry with them on the outward voyage could just as easily have been carried back to China on the homeward voyage.

The "biscuit-ware" of Meroe could thus have readily come to their knowledge. It would have been carried along the trade routes which passed from Meroe to the harbours of the Red Sea coast, and there it would have become known to the

[1] "Ils ont une terre excellente dont ils font des vases d'une delicatesse aussi grande que s'ils estoient de verre, et qui sont également transparents" (Renaudot's translation, p. 26).

[2] Nassiri Khosrau, writing in December, 1048, says (Schäfer's translation, p. 151): "On fabrique à Misr de la faience de toute espèce ; elle est si fine et si diaphane que l'on voit à travers les parois d'un vase la main appliquée à l'extérieur. On fait des bols, des tasses, des assiettes et autres utensils. On les décore avec des couleurs qui sont analogues à celle de l'étoffe appelée bouqualemoun ('shot silk'); les nuances changent selon la position que l'on donne au vase."

[3] A. Herrmann : *Zeitschrift der Berliner Gesellschaft für Erdkunde*, 1913.

[4] Fr. Hirth and W. W. Rockhill, St. Petersburg, 1912.

Chinese. The Chinese were already making the fine glazed pottery of the Han period, and using it in preference to the lacquer and metal vessels of an earlier date, and their potters would have recognised that they also possessed at home the same kaolinic clay as the potters of the Sudan. As they imitated the glazes and designs of the Hellenised cities of Central Asia with which they had become acquainted in the second century B.C., and as a few centuries later they imitated the glass and cloisonné of Byzantium, so, too, we may feel sure, they would have attempted to imitate the beautiful foreign ware which was brought from Africa. A bowl I obtained from a T'ang tomb is decorated with painted reliefs which are identical with a favourite floral design on the Meroitic ware (*e.g.*, Woolley and MacIver: *Karanóg* IV, Pll. 46, G 100; 59, G 546; 81, G 253; 84, G 621), and among the terra-cotta figurines in my possession from tombs of the pre-T'ang period are some which are as distinctively Hellenic in character as the figurines discovered by Prof. Petrie at Memphis. It is true that in the latter case the inspiration came from the West by the land-route across Central Asia, but it indicates how ready the Chinese were at the time to adopt and assimilate the elements of Western art. A head-rest from a T'ang tomb which I obtained in China has a floral pattern in red and yellow which possesses all the characteristics of the naturalistic designs of the Meroitic ware.

A. H. Sayce.

KING UDY-MU (DEN) AND THE PALERMO STONE.

KING Udy-mu has long been known to the world under several different names, and it will be well to recount these at the outset, so as to clear up any confusion in the mind of the reader. At the time of the Ist dynasty the Egyptian kings bore two names, each of which was preceded by one or more titles, and Udy-mu's were and . The first was originally read by Prof. Petrie (who discovered many contemporary monuments of this king at Abydos) "The Horus Den," but Sethe has shewn that the more probable reading is "The Horus Wdy-mw" (SETHE, *Beiträge zur ältesten Geschichte Aegyptens*, pp. 39–41). The second name— , to be read either KHASKHETI "the Foreigner," or SEMTI "the Desert man,"—is preceded by the double title "King of Upper and Lower Egypt," and curiously enough it is found in later Egyptian documents under several different forms. The reason for these different forms is obvious to anyone acquainted with hieratic writing; unless very carefully written the hieratic of can easily be mistaken for the hieratic form of both and . Now the scribe who drew up the Turin Papyrus List of Kings wrote the name in hieratic thus :—

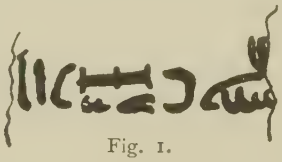
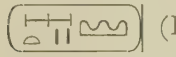
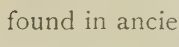


Fig. 1.

This would give the reading *Sp·ty* (*Sep·ti*) or *Ḥsp·ty* (*Ḥesepti*), but as Griffith has pointed out (*R.T.*, I, p. 38) a form found in the XVIIIth dynasty papyrus of Nu  (BUDGE, *Book of the Dead*, Text, p. 145) may show that this "was intended to represent *Sm·ty* (*Sem·ti*)." The scribe of Sety I's List of Kings at Abydos gives us *Sp·ty* (*Sep·ti*) or *Ḥsp·ty* (*Ḥesepti*) and other forms found in ancient documents are  (BRUGSCH, *Rec. de Mons.*, II, Pll. 85-107) and (LEPSIUS, *Todtenbuch*, Pl. 53). The sign ; it should be pointed out, has usually the value *ḳn*. By Manetho's time in the third century B.C. there were therefore at least two mistaken readings of the original name , and the Egyptian historian reading his hieroglyphs and quite correctly as *ḳn* (*ḳen*) and *ḥsp* (*ḥesp*) entered two separate kings' names, Kenkenes and Usaphais, in his list. Thus we have the following names of one and the same Ist dynasty king circulating in Egyptian literature at the present day :—

The Horus DEN (Petrie).
„ WDY·MW (Sethe).
The King of Upper and Lower Egypt SETUI (Petrie).
„ „ „ SEMTI (Griffith, Hall).
„ „ „ KHASKHETI (Sethe).
„ „ „ HESEPTI (Sety's Abydos list).

KENKENES (Manetho from the form).

USAPHAIS (Manetho from the form).

In this article the forms Udy-mu and Khaskheti will be used.

The Palermo Stone takes its name from the Palermo Museum, where it is now preserved; it is a fragment of a large tablet inscribed in the Vth dynasty, recording the Annals of the kings of Egypt from Mena, the first king of the united country, down to the time when the monument was set up. The Annals are set out in great detail year by year, and it seems hardly possible that such accuracy was obtainable by tradition only, for a period so remote from the Vth dynasty as was the Ist dynasty. We can therefore but imagine that records of the chief events had been kept year by year, and that the scribes of the Vth dynasty had access to them. This would be quite in keeping with early custom, for we find in Babylonia, for instance, documents dated not by the year of the king's reign but by the chief event in that year. Thus under Bur-sin of Babylonia we find a document dated in the "year in which he destroyed the city Shashru" (cf. SCHÄFER, *Ein Bruchstück Altägyptischer Annalen*, printed in the *Abhandlungen der Königl. Preuss. Ak. d. Wissensch. zu Berlin*, 1902, p. 10). In making use of the Palermo Stone we are badly hampered by its fragmentary condition, which isolates long records of reigns to which we cannot attach the king's name. If by any means some of the events of one of these reigns can be identified, so that we can supply the missing name, then a considerable point will have been gained.

Now Schäfer has pointed out that in other ancient documents we get references to the same or similar events as are recorded on the Palermo Stone (*ibid.*, p. 8) Hence if we can find any series of events thus recorded and in conjunction with the name of the king under whom they took place, and further can find on the Palermo Stone a group of similar events recorded under one reign, then it will not be too far a cry to assign the king given in the named set of records to the similar set which bears no royal name. Now, in the third row of the Palermo Stone we know we are dealing with a period between the pre-dynastic age and the IInd dynasty, because this row comes after the first, which gives the names of the kings of Lower Egypt when the kingdom was not yet united, and before the fourth, which names Netery-mu a king of the IInd dynasty. The third row, therefore, deals with the events of the Ist or early IInd dynasty, and it is among the named records of these dynasties that we must search for our parallels.

Fortunately such sets of named records of these dynasties have been found at the Royal Tombs of Abydos. They will therefore form a convenient *corpus* for the purpose of comparison. Fortunately again, the records of the third row are not easily to be confused with those of any other reign, as many of them only occur here. Hence there should be no difficulty in deciding to which of the sets of the named records of Abydos they conform, and in this way discovering the king whose annals form this third row of the Palermo Stone.

Sethe has suggested Miebis (Mer-pa-ba) as the name which is lacking, but finds difficulty in making the necessary length of the reign recorded on the third row of the Palermo Stone coincide with the twenty-six years given by Manetho to this king (SETHE, *Beiträge zur Ältesten Gesch. Ägyptens*, p. 48). Unfortunately we are unable to test the claims of Miebis by appealing to his Abydos documents, as those remaining to us are not of an annalistic nature, and so cannot be compared with the record of the Palermo Stone.

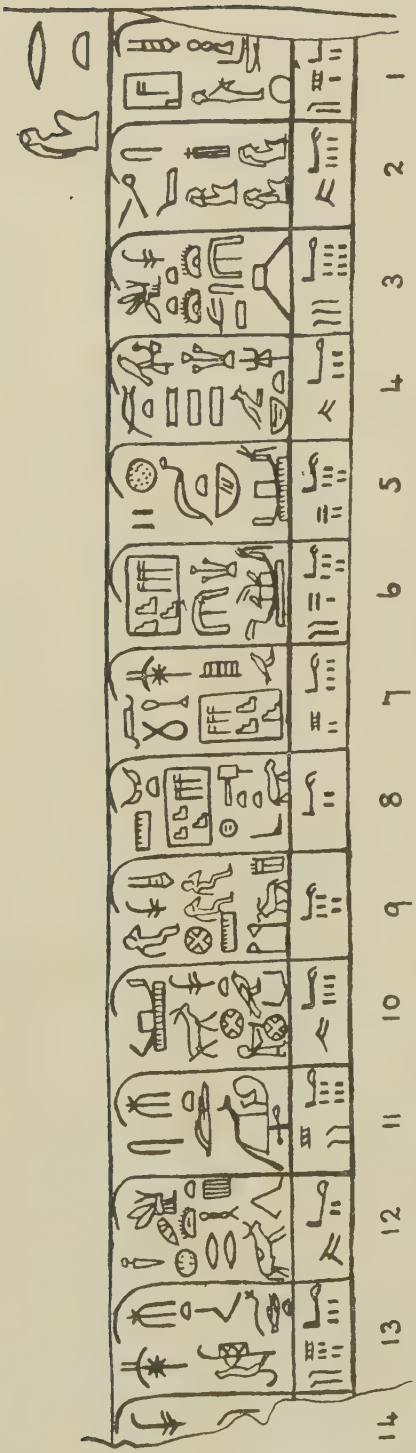


Fig. 2. Part of the Third Row of the Annals, Palermo Stone.

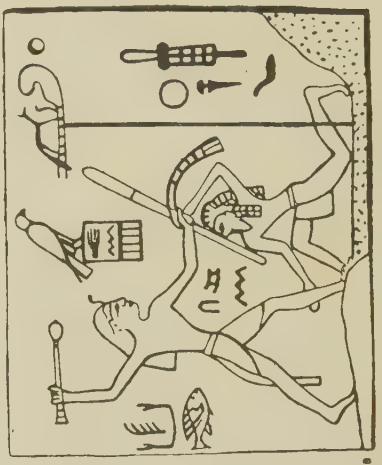


Fig. 3. First Smiting of the East.
See Col. 2 of Annals.

Fig. 4. Sed Festival.
See Col. 3.

Fig. 8. Hunting.
See Col. 8.

Figs. 6, 7. Hunting the Hippopotamus.
See Col. 8.

Fig. 5. Opening the Gate of Water.
See Col. 8.

Fig. 10. Standards of Sed and Mafdet.
See Cols. 11 and 13.

Figs. 9. Temple of Heryshef.
See Col. 9.

Events in the Annals compared with Tablets from Royal Tombs.

The documents of another king—Udymu—however, compare in a marked degree with the records of this third row. These documents consist of inscribed tablets and clay sealings recovered from his tomb at Abydos, and for comparison here each is added to the record from this row of the Palermo Stone which it resembles. The numbers refer to those which we have placed below the inscription in Fig. 2.

2. *Palermo.* "Smiting of the Inu" (People of the Eastern desert and Sinai).
   Abydos. Tablet of Udymu (SPIEGELBERG, *Ä.Z.*, XXXV, p. 8). "First Smiting of the East."
3. *Palermo.* "Appearance of the King of the South. Appearance of the King of the North. Sed festival."
   Abydos. Fragment of a tablet of Udymu (PETRIE, *R.T.*, I., pl. xi, 5, 14) showing the raised pavilion of the Sed festival, and inscribed with the king's name.
8. *Palermo.* Opening of the lake of the house Isut-Neteru.
   Abydos. Tablet of the Horus Udymu King of the South and Khaskheti (AMELINEAU, *Nouvelles fouilles*, 1897–8, xxxvii, 3; also PETRIE, *R.T.*, I, pl. xi, 14, 15) recording among other things the "opening of the door of the water?" and showing a hoe breaking away the earth of an embankment? Marked × in Fig. 5.
8. *Palermo.* Shooting of the hippopotamus.
   Abydos. Sealings of the Horus Udymu (King of the South and North) Khaskheti (PETRIE, *R.T.*, II, pl. vii, 5, 6; *R.T.*, I, pl. xiv, 8) showing a hippopotamus attacking a man, and the harpooning of a crocodile. See also Fig. 8, a tablet of Udymu, and also Fig. 10.
9. *Palermo.* "Residence in Henen-nysut (Heracleopolis) and at the lake of the temple of Hery-she-f."
   Abydos. Fragment of a tablet (PETRIE, *R.T.*, II, pl. vii, 8), showing a ram temple, probably that of the ram-headed god Hery-she-f, and naming a king of the South and North who from the fragment of the duplicate tablet figured alongside is probably Khaskheti.
11. *Palermo.* "Birth of the God Sed."
   Abydos. Sealing of the Horus Udymu (PETRIE, *R.T.*, I, pl. xxxii, 39); showing besides the harpooning of some animal, a close connection between the king and two gods, one of whom is Sed, the jackal on a standard crossed by a mace.
13. *Palermo.* Birth of Seshat and Mafdet.
   Abydos. Sealing of the Horus Udymu (PETRIE, *R.T.*, I, xxxii, 39; also *R.T.*, II, vii, 7, 10, see Fig. 10). Besides the above-named scenes King Udymu is also shown in connection with the standard of the goddess Mafdet.

Here, then, we find that out of a total of fourteen records of this row on the Palermo Stone, seven are found among the named annalistic monuments of Abydos which belong to Udymu. The Palermo Stone records much that does not appear on these monuments from Abydos, and of course there are other tablets of Udymu's —such for instance as *R.T.*, I, pl. xv, No. 18, *Abydos*, I, xi, 8, naming the city of Went—which find no parallel among the incomplete annals of the Stone. Thus it

is an inconclusive argument which Sethe brings (*Beiträge*, pp. 47, 48) that Usaphais (Udymu, Khaskheti) cannot be the king of this third row, because no mention of the worship of Horus is found here, whereas it is found on his tablets from Abydos. It therefore seems that the weight of evidence is at present greatly in favour of Udymu being the king whose annals are recorded in the third row of the Palermo Stone.

There is yet another fact which would point to the same conclusion, and again a further one which points away from Miebis, whom Sethe suggested as the king of this row, and, if it points to any one, it points towards Udymu. Both of these would thus form subsidiary points of evidence in favour of our thesis. They are: (1) the use of the title , king of the South and North; (2) the probable length of thirty-two years for the reign recorded in this row.

Griffith has noted (*R.T.*, II, p. 52) that the title "king of the South and North" does not occur before Udymu, and in our illustrations we get instances of its use in his reign (Figs. 5, 9). Now the first time this double title appears on the Palermo Stone is in our third row, where it occurs once only, in No. 3 of Fig. 2. Afterwards it appears several times in the later reigns. This, then, is one subsidiary connection of the third row of the Palermo Stone with the reign of Udymu.

For the second point it must be remarked that Schäfer (*Ein Bruchstück*, p. 21) has deduced a length of at least thirty-two years for this reign. This is arrived at by means of the knowledge, given us by the fourth row, that each king's name is written over the middle of the space allotted to his reign. The fourth line also shews us that besides the royal name some particulars are entered as well.

Now fortunately in the space above our third row allotted to these royal names and particulars, we have the end of such an entry (Fig. 2). This shews that the broken record begins within a year or two of the middle of the reign, and there are fourteen years registered before the record breaks off again. Hence there must have been at least fourteen more years recorded on the other half now lost. This gives twenty-eight years at the very least for the reign before us. On the analogy of the fourth row, five or six year spaces may well be allowed for the space under the name, of which two are already accounted for, one in each of the two sets of fourteen, leaving three or four to be added to the total of twenty-eight already arrived at, thus making $28 + 4 = 32$. There may also be one or two years to be added at either end of the row, as we do not know that the last year visible on the broken stone was the last year of the reign. Thus, then, the king of the third row cannot have reigned less than twenty-eight years, probably reigned thirty-two years, and may have reigned a little longer. Hence the length of reign indicated for this third row precludes Miebis (Mer-pa-ba) to whom Manetho only gives twenty-six years while Eratosthenes gives less still—nineteen. There is, however, one king the length of whose reign is in accordance with the probable length of the reign of this third row. This is Kenkenes—a name thrust in by Manetho along with that of Uenephes; but without emendation the forms of neither of them can be made to agree with any of the names of the Ist dynasty known either from the contemporary relics or yet from any of the Egyptian lists; and neither of them are known to Eratosthenes, though his list is too imperfect to have much weight.

Now it is well known that though Manetho may be a valuable guide for the general sum and extent of Egyptian history, yet he cannot be implicitly relied on for details (*vide* for instance his XVIIIth dynasty). Such being the state of affairs it is very fortunate that both of these difficult names are susceptible of some explanation. Maspero (*Rec. de Trav.*, XVII, p. 65) has shown that Uenephes is an

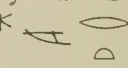
exact transcription of Unnefer (Osiris)—a name which is often written in a cartouche. In some way it has slipped in here. As to the other name it has already been shown that Kenkenes may quite possibly be a misreading of Khaskheti (Udymu) as is the name Usaphais. It is therefore perhaps significant that the number of years entered against Kenkenes' reign (Africanus 31, Eusebius 39) compare well with the number deducible from the Palermo Stone (32 or more). This then makes a further subsidiary piece of evidence that the third line of the Palermo Stone does not record the reign of Miebis (Mer-pa-ba), but probably records that of Udymu (Usaphais).

Thus the result of the foregoing is to shew that there is a considerable body of converging evidence respecting these records in :—

1. The recording on the third row of the Palermo Stone of a number of the same events as are found on the named records of Udymu.
2. The use of the double title , king of the South and North, which is not known to occur earlier than Udymu, and on the Palermo Stone is found for the first time on this third row, and often later.
3. The length of the reign recorded in this row agrees most closely with that of Kenkenes, which name is proved to be a corruption of Khaskheti (Udymu).

This evidence all converges to shew that Udymu (Khaskheti) is the king whose reign is recorded on the third row of the Palermo Stone.

Merneit or Meryt-Neit.

Having shewn to whom this row of Annals on the Palermo Stone is likely to refer, it becomes necessary to treat the three signs above the row. To elucidate these it becomes necessary again to turn to the heading of the fourth row, which reads *Nṯry·mw rn Nb . . .* , translated as "King Horus Neter-en (Netery-mu) the child of Nub . . . . " (SETHE in GARSTANG'S *Mahâsna and Bêt Khallâf*, p. 20; SCHÄFER, *Bruchstück*, p. 22). Here, then, Netery-mu is named with his mother, and such is entirely suitable to the final fragment of our inscription, which is shewn by the determinative to be the remains of a woman's name; this woman should by this analogy be the mother of Udymu. Sethe (*Beiträge*, pp. 29, 47) has suggested the restoration of this name as  , Meryt-Neit, and has brought evidence to shew that the well-known personage Merneit, as the name was at first read, was a woman and not a man. Meryt-Neit then, in all probability, must have been the mother of Udymu.

Meryt-Neit's position as mother of Udymu fits in well with the place assigned to the bearer of this name by Prof. Petrie (*R.T.*, II, p. viii) next before Udymu (Den-setui); it also fits with the probability that she died under Udymu (Usaphais) in that he provided her tomb equipment (SETHE, *Beiträge*, p. 30),—a most natural thing for a son to do. It is perhaps a duty more likely to fall on her son than on her husband, which would have been the case under Sethe's supposition that she was the wife of Usaphais (Udymu) and the mother of Miebis (Mer-pa-ba) (SETHE, *Beiträge*, p. 30). It remains a question whether Miebis (Mer-pa-ba) may have been also her son as well as Udymu; but it seems clear that Miebis cannot be the king of the third line of the Palermo Stone.

We now know two queens of the early Ist dynasty; Meryt-Neit the mother of Udymu, and the earlier queen Hotep, a princess of Sais and the wife of Narmer-Mena (NEWBERRY, *P.S.B.A.*, 1906, p. 69). We also know that sixteen out of seventy of the private stelae found round the tomb of Zer,—a predecessor of Udymu—bear names compounded with Neit, the well-known goddess of Sais in the Delta. From Naga ed-Dêr we find in the golden object inlaid with her symbol another piece of evidence of the importance of Neit during the Ist dynasty (REISNER, *Early Dynastic Cemeteries*, I, pl. 6, p. 139), and on a certain type of cylinder seals of the Ist dynasty bearing private names, no less than seventy-five per cent. of the names are compounded with the name of Neit (NEWBERRY, *Scarabs*, p. 51). It seems therefore that these southern kings with their capital in Upper Egypt were marrying princesses from this important city of Lower Egypt, the home of the Neit worshippers, and so ingratiating themselves with their newly acquired subjects in the North (NEWBERRY—GARSTANG, *Short History*, pp. 19, 26).

This group of Neit names implies that just at this time there was a strong colony of Neit-worshippers at the court of these southern kings composed of princesses and their retinue (NEWBERRY, *P.S.B.A.*, 1906, pp. 69, 70).

PERCY E. NEWBERRY.
G. A. WAINWRIGHT.

COPTIC STELE OF APA TELEMĒ.

THIS stele was found in Upper Egypt, and bought by Prof. Flinders Petrie in 1913. Now in the Institut Biblique, Rome. Copied by Mrs. Petrie.

[1] The Father, the Son, the Holy [2] Spirit. Our father Michael, our [3] father Gabriel, our Lady mother [4] Mary, our father Adam, our [5] mother Zoē, the four and twenty [6] elders, our fathers the [7] patriarchs, our fathers the [8] prophets, our fathers the apostles, [9] our fathers the martyrs, our [10] fathers the confessors, our [11] fathers the archbishops, [12] our fathers the bishops, our [13] fathers the great men, father [A] [14] pollo, father Anup, father [15] Phib, father Makare and his sons, [16] father Moses and his brethren, [17] father Jeremias, father Enoch, father [18] Joseph the . . . . . ; father Ammōni [19] of Pseteshons, father [20] Pollōni the martyr, [21] all the holy ones. Remember [22] Apa Telemē of Poureh, [23] who [rested] the fourth day [24] of . . . . .

Notes.

L. 5. "Our mother Zoē." The name of Eve as given in the LXX.

L. 13. "The great men." This expression appears to apply to the names which follow.

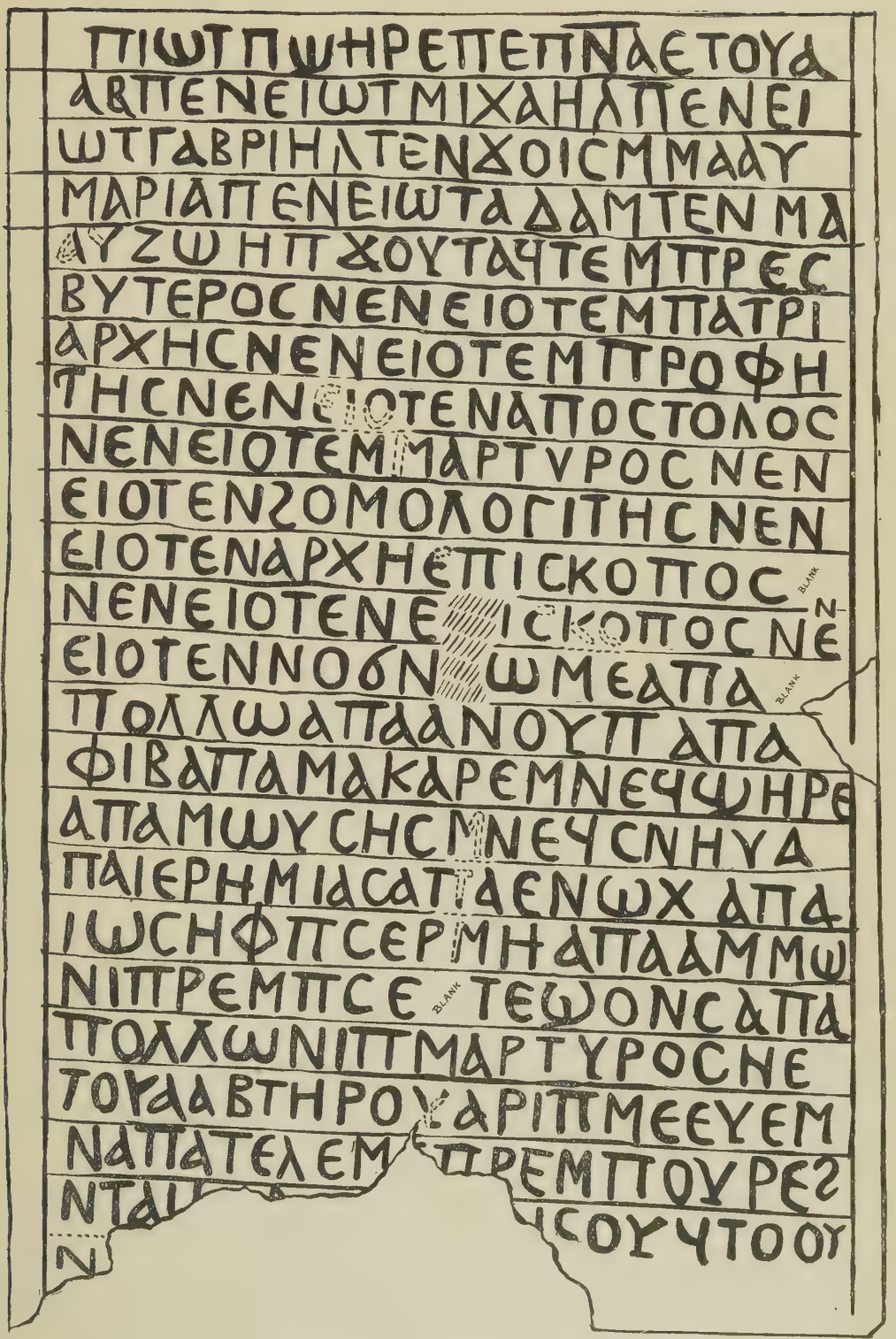
LL. 14, 15. Apollo, Anup and Phib are the three saints of Bawit, a village on the west side of the river opposite Tell el-Amarna. It was the site of the ancient monastery founded by Apa Apollo. The remains of the monastery were first noted by Prof. Flinders Petrie (*Tell el-Amarna*, map), and were excavated later by M. Jean Clédat (*Mémoires de l'Institute Français*, XII, XIII). Apa Apollo as the founder of one of the great monasteries of Egypt is included in the invocations of saints which constantly occur in Coptic inscriptions; his name is usually followed by those of Apa Anup and Apa Phib. His day is celebrated on Mechir 5; Phib, who is called Abib in the Synaxarium, is commemorated on Paophi 25. From the fact that Apollo, Anup, and Phib head the list of saints and are therefore in the most prominent position, it seems likely that the stele came originally from Bawit.

L. 15. In this, as in the line immediately following, the two words, ⲟⲩⲛ ⲛⲉϥ "And his," are written as one, one ⲛ being omitted.

L. 16. Apa Moses was the local saint of Baliana. He founded a monastery in that district, but it is not certain whether at Baliana itself or at Abydos.

L. 17. Apa Jeremias and Apa Enoch are the local saints of Saqqara. The monastery of Jeremias, near the Step-pyramid, was first located by Sir Gaston Maspero, and excavated later by Mr. Quibell for the Department of Antiquities (QUIBELL, *Excavations at Saqqara*). Among the inscriptions found are three which refer to Jeremias as a person and not merely as a legendary saint; one is on a block of stone, "the seat of Apa Jeremias"; another is on a paving-stone in the floor of the "Refectory," containing the very interesting statement that "This is the spot on which our lord and father Apa Jeremias bowed himself, until he removed the sins of the people of the whole world"; the third gives the dates of his birth, of his tonsuring, of his ordination, and of his death.

Apa Enoch, who is usually mentioned in the lists with Apa Jeremias, is the Enoch of the Bible. He was commemorated about the end of Epiphi, the actual day appearing to vary.



1 : 3 COPTIC STELE OF APA TELEMĒ. H. F. P.

L. 18. ⲡⲥⲉⲣⲙⲏ. This title or epithet of Apa Joseph is one of which I have no knowledge.

L. 19. Pseteshons appears to be a place name. Near Bawit was a place called Terōtashans (ZOEGA, 366) or Terōtnshoons (HALL, *Greek Texts*, p. 144); it would seem likely that Pseteshons, which has the same termination, would be in the same neighbourhood.

L. 22. ⲁⲣⲓ ⲡⲙⲉⲉⲩⲉ ⲛ̄ is the usual form. I would suggest that the sculptor has confused this formula with the other funerary formula ⲁⲣⲓ ⲟⲩⲛⲟϭⲛ̄ⲛⲁ ⲙ̄ⲙ̄ⲛ̄.

The name Telemē is also found as Delemē (*cp.* CRUM., *Coptic MSS. from the Fayyum*. No. XXIII, ll. 10, 11).

Poureh appears to be a place name. ⲟⲩⲣⲉϩ, a masculine word, means waste ground near buildings.

L. 23. The position of the small fragment, which is all that remains of the letter ⲙ, shows that the word was written ⲛⲧⲁϥⲉⲙⲧⲟⲛ.

M. A. MURRAY.

EGYPT IN AFRICA.

(*Continued.*)

Royal functions.

24. The chief as priest.
25. The king killed before old age.
26. Indirect mention of king's death.
27. Sister marriage.
28. Honour of the royal placenta.
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44. Red and white pottery.
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50. Flat ground-loom.
51. Mosquito nets.
52. Harpoon.
53. Drag net.
54. Hand net.
55. Basket traps.
56. Ring snares.
57. Cone on the head.

Late Influence from Egypt.

58. Terracotta Nigerian heads.
59. The classical patterns.
60. Interwoven patterns.
61. Architectural style.

IN addition to the various authorities named in the previous article on this subject, there is to be added here (K) *On the backwaters of the Nile*, by A. L. KITCHING (1912).

Royal functions.

24. *The chief as priest.*—"Sometimes a man approaches his deceased relations on his own behalf; but, as a rule, it is the chief who prays and sacrifices on behalf of the village." (W., 49.) "The head man acts (in offering) on behalf of the village." (W., 53.) Similarly in Egypt all offerings were considered in theory to be made by the king, the formula being *nesut dy hetep*, "may the king give an offering"; and the figure of the king is sometimes represented making the offering to the deceased.

25. *The king killed before old age.* Among the Shilluks "the king must not be allowed to become ill or senile, lest with his diminishing vigour the cattle should sicken and fail to bear their increase, the crops should rot in the fields, and man, stricken with disease, should die in ever increasing numbers . . . Any *niaret* (child of the king) has the right to attempt to kill the king, and, if successful, to reign in

his stead . . . . It was said to be a point of honour for the *ret* (king) not to call the herdsmen to his assistance." (S., 221–2.) "Every Dinka high chief is killed in his old age, this being done at his own request with all ceremony and reverence . . . The Wawanga . . . also kill their king . . . The custom of king killing, in a somewhat modified form, is also found among the Banyoro; . . as soon as the king felt unwell and thought he was about to die . . . his chief wife was allowed to visit him . . . he asked her for 'the cup' . . he drained it, and in a moment was dead." (H., 72–3.) On the Niger, "These Ogboni are the 'Elders,' the oldest members of the families held in the highest esteem, and pledged to work together by the most solemn sacrificial ties from which there is no release; . . . . while keeping a jealous eye on the even balance of prestige among themselves, they pull the strings which make the principal civic power, the Balé, dance like a marionette at their behest. They elect this Balé, give him their instructions, control him, keep him under the closest observation, and quietly remove him should he ever dream of undertaking anything on his own account without due regard to the interests and dignity of the Ogboni League. . . . They immediately send him an ominous token, and if he does not forthwith commit suicide on its receipt, the poor Balé is very soon poisoned. It is not so very long ago that every Balé, who had served his statutory two years of office, was murdered in conformity with the laws of a very ancient ritual." (F., 56–7.) "And if still further evidence should be thought necessary to prove the profundity of these people's religious life and habit of mind, I will say in addition that they still practise the pre-historic custom of the Ethiopians referred to by Pliny and Diodorus the Sicilian: they doom their kings to their death within a few years of their reign and do so because otherwise the earth would no longer yield the fruits upon which they depend in due season. The custom is dreadful and cruel." (F., 676.)

The greatest religious festival in Egypt was that of the *sed*, or termination of the king's earthly life, when he was assimilated to Osiris and became one with the god. Doubtless this was originally his earthly death, as in Africa; but by appointing then his successor to marry the royal daughter, and inherit the kingdom, the Egyptian felt free to modify the custom, and after deification the king continued to reign till his natural decease.

26. *Indirect mention of the king's death.*—"Among the Efik and Ibibio, to announce the death of a king or chief either very suddenly, or too soon, is considered a great dishonour, especially in the case of a son, who must only be informed indirectly by an allusion or a hint. The body is preserved by dessication." (L., 170.)

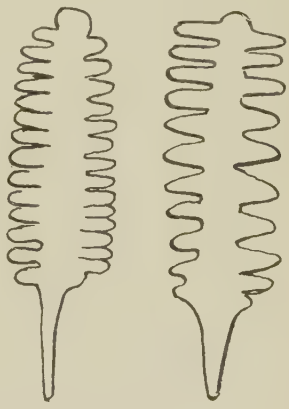
This explains the passage in the tale of Sanehat, where the king's death is announced by saying that a hawk had flown to heaven.

27. *Sister marriage.*—"The Bahima, the Banyoro, and the Baganda, are all totemic and observe the ordinary rules of clan exogamy, yet the Bahima marry their sisters, . . . among the Banyoro . . . princes might cohabit with princesses. . . . The rule was for princes and princesses to live together . . . the Baganda . . . clan exogamy was strictly observed, except in the case of the ruling prince, who, on becoming king, was ceremonially married to one of his half sisters. . . . We thus reach the conclusion that brother-sister marriage was a widely spread early Hamitic institution. Nor were consanguineous marriages limited to the royal family, or even to the aristocracy, for the practice occurs among commoners in certain Galla tribes at the present day." (H., 59–61.) The Egyptian custom of sister-marriage was not only usual in the royal family but also generally; so much so that a wife was commonly called a sister. In Ethiopia there is a long genealogy of the queens

in maternal descent, each married to her brother. The custom was adopted as part of the royal system by the Ptolemies ; and in the first century is alluded to as being general by Seneca(?) in the *Apocolocyntosis* (Ch. 8). "You may go half-way at Athens, the whole way at Alexandria," referring to half-sister marriage at one, and full-sister marriage at the other.

28. *Honour of the royal placenta.*—Among the Baganda "On the birth of a prince the umbilical cord is dried and preserved, placed in a pot which is made for its reception, and sealed up ; the pot is wrapped in bark cloths and decorated with beads . . . ; this is called 'the twin,' and has a house built for its abode . . . The umbilical cord of the king was decorated and treated as a person. Each new moon . . it was carried in state . . . After the king's death . . it was placed in a special shrine or temple with the king's jaw-bone which is spoken of as the 'king.' The two ghosts, the one of the placenta, the other of the dead king attached to the jawbone, were thus brought together to form a perfect god to whom offerings were made in the *malolo*. The *malolo* or temple is entirely different from the tomb in which the king's body is laid ; indeed, the *malolo* is built some months after the tomb, often, it appears at a considerable distance from the latter." (Roscoe in H., 68.) Respect is also given to the placenta among the Dinka, Shilluk, Bahima, and many other tribes of the Sudan and Nile deserts. (H., 66–8.) In Egypt one of the sacred standards carried before the king, is called the "Inner thing of the king" or the "Royal Child," and is considered by Dr. Seligmann to represent the placenta. Such custom as that of the Baganda would explain a most puzzling feature of Egyptian royal burials,—the two tombs often found. Several kings have two pyramids, or a pyramid in one place and a burial elsewhere. It might be thought impossible that a pyramid would be built for the placenta ; but the second pyramid exists, and such an explanation—by existing custom—is at least more likely than any arbitrary guess that the modern "inner consciousness" might produce.

29. *Importance of leopard's skin.*—"Anyone killing a leopard, a giraffe, or an antelope called *giek*, must hand over the skin to the king . . . only the king could wear the skin of the *giek*, but his sons, grandsons, and great-grandsons might wear leopard skins, and . . some old and important men, even if not of the royal blood, were allowed to use the latter." (S., 217.) In Egypt in early sculptures the king's descendants wear the leopard skin ; and in later times the officiating priest might wear it, probably as lieutenant of the priest-king.



1. Ensign of the Saw fish, on Pre-historic statue, Koptos.

30. *Potency of the ox tail.*—"The tail of the ox, called Mawso, is the sign of office of all the Kongosovo among the Bavili ; thus the idea of obedience to one in authority is implied." (N., 156.) In Egypt, from the first to the last dynasty, the king always wears the tail of an ox hanging from his girdle. It may be further connected with the king being called "the strong bull."

31. *Ensign of the saw fish.*—"Bafu = the saw fish, the snout of which the Budungu (king's police) carry as their sign of office. This snout is found in the Xibila" (sacred grove). (N., 156.) The saw-fish snout is twice represented on the barbaric colossus of Min of the pre-historic age, found at Koptos (Fig. 1).

Beliefs.

32. *The mundane spirit world.*—"The boundary line between this world and the next is . . . the entire absence of death or dissolution in the next world . . . So it is that they have neither a heaven nor a hell, spirit land being merely a continuance of this life on exactly the same conditions, each country and community having its allotted portion, and each individual resuming the exact position that was occupied when in this existence . . . . The ground there is just the same as it is here, the earth is similar, there are forests and hills and valleys, with rivers flowing, and roads leading from one town to another, as well as to houses and farms . . . . People in spirit land have their ordinary occupations; the farmer his farm, and the fisherman his nets and canoes." (L., 184–6.)

Thus in Egypt the whole future life was an exact repetition of the conditions on earth, as has been illustrated on pp. 26, 28, of this volume.

33. *Every object has its spirit.*—"Every domestic utensil as well as tool or implement . . . is endowed with a spirit of its own, that in its deepest essence is the animation and mover of the article in question." (L., 181.) Such was also the belief in Egypt, where every object had its name and individual existence.

34. *The ancestral spirit.*—"Sometimes the spirit of a person recently dead is spoken of as *jok*, but the term is generally reserved for the spirits of long dead and powerful ancestors . . . Although the *jok* may send sickness, death and misfortune when annoyed or neglected, they are the guardian spirits of the house and clan, taking constant interest in the doings of their descendants, and being ever ready to help them . . . The *jok* know when a child is born, and protect it from the very beginning . . . The *jok* on both sides of the family protect the child . . . A man's *jok* are ever near him in enterprise or danger." (D.) "It is believed that every ordinary individual, male or female, is attended by a guardian spirit, who is looked on as a protector, invariably of the same household, and with whom when alive personal friendship or attachment has existed. Every free man is attended by a guardian spirit, usually the spirit of his own immediate father." (L., 190.)

The African beliefs explain what has long been a debated matter, the nature of the Egyptian *ka*. The expressions which throw light on the *ka* are quoted on pp. 22–4 of this volume; and the conclusion to which they lead is that the *ka* was an ancestral emanation indwelling in each man, sent by the ancestor who was in the future world, and to whom the man would go at his death. Such conditions of the *ka* are well illustrated by the African beliefs, which enable us thus to clear and solidify our ideas about this entity.

35. *The roads of the future.*—"There is a series of traditional stories, each of which is called a road, a pathway, or a course." (N., 247.) These stories are supposed to be learned by every priest. Similarly in Egypt, at the close of the Old Kingdom, there was a series of recitals of sixteen paths or ways, as on the sarcophagus of Beb. (*Dendereh*, 57.)

36. *Twins, human and animal.*—"Most of the Dinka clans whose token is an animal, derive their origin from a man born as one of twins, his fellow twin being an animal of the species which is the totem of the clan." (D.) This strange idea is also seen in Egypt, in the human Shu and lion Tefnut, the human Horus and animal Set.

37. *Ram-headed god.*—"The Ram-headed Soudanese gods Ara and Ara-dungs are, respectively, the Yoruban names for the storm and the thunderbolt. It has just been shown that the popular idea is that a storm is produced by a ram . . . .

Among those inhabiting the East far from the Niger, namely, Houssa- and Benue-land, a slight change in the conception of the divine Ram has taken place, with a distinct tendency to transform the Storm-god to a Sun-god." (F., 219, 221.)

"Prof. Flammand found large paintings in Algiers, south of Oran, on the cliffs, depicting the ram, neckletted, and crowned with the sun, whose rays are similar in form to the uraeus serpent." (F., 225.)

The Ram was the animal of the Theban Amen, signalised to all later time by the horn of Alexander's head, adopted as token of his descent from Amen of the Oasis, which gives him the oriental name of *Dhul-karnain.* The Ram was specially worshipped by the Ethiopians, and appears often on monuments of the XXVth dynasty. There was also a very important worship of the *Ba* ram of Mendes in the Delta, associated with Osiris, and dating from pre-historic times, see article in the previous number on "The Earliest Inscriptions."

38. *The bull god.*—"With the ancient Houssa, however, as with other Eastern tribes, it was the bull, and not the ram which was the supreme deity.

The godhead represented by the bull was Maikaffo (*vide infra* concerning Maikaffo and the Bull gods of the Ethiopians). Maikaffo had a wife, whose name was Ra. Now Ra is the mistress of the sun, or Rana. Now the sun was sunk into the sea of old within a chest of stone. The sun was shut up therein together with a white ram. None could bring up the sun and his companion again; Ra, the goddess of the Sun, did this; Ra brought the sun and the ram into the upper world." (F., 222.)

The many Bull gods of Egypt are familiar, from Erment down to the Delta. It may be only a coincidence that the goddess of the Sun has the name Ra, for verbal resemblances are worth less than those of ideas and customs; yet it is not at all unlikely that the name of Ra may have spread from Egypt to the Niger, though the original worship came apparently from the East.

39. *Totemism and animal clans.*—The word *totem* has been somewhat misunderstood, and some definitions of it may be taken first, bearing in mind the animal worship of different Egyptian nomes for comparison. "A totem is a class of material objects which a savage regards with superstitious respect, believing that there exists between him and every member of the class an intimate and altogether special relation . . . the totem protects the man, and the man shows his respect for the totem in various ways, by not killing it if it be an animal . . . As distinguished from a fetish, a totem is never an isolated individual, but always a class of objects, generally a species of animals or plants." (FRAZER, *Totemism*, 3.) In connection with this observe that it is always a species in the plural that is sacred in Egypt, *Heru* hawks, *Khnumu* rams, etc. "The Dinka . . . speak of certain animals as their ancestors, *kwar*; the *kwar* being the . . . animal 'who is the *jok* of the clan' (or the ancestral emanation, or *ka* in Egyptian). No man injures his *kwar* animal but all respect it in various ways . . . . There is some evidence that when a clan is particularly strong in a given locality, its members tend to forget that their totem is but one among many, so that they show annoyance if other folk do not treat it with respect." (D.) Here is the basis of belief which fully accounts for the animal ensigns upon the slate palettes, represented as fighting and acting, and for the violent antipathies between the nomes, based upon the animals being sacred in one nome that were eaten in another.

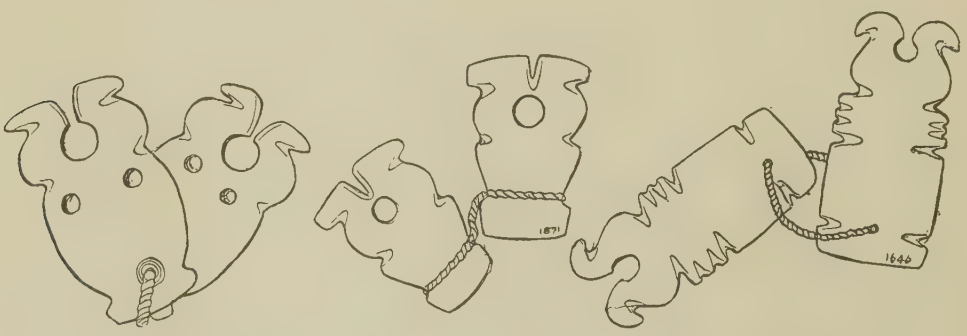
40. *The sacred sycomore fig-tree.*—"Every village has its 'prayer tree' under which sacrifices are offered . . and is, sometimes at any rate, a wild fig-tree.

Livingstone says: 'It is a sacred tree all over Africa and India'; and I learn from M. Auguste Chevalier that it is found in every village of Senegal and French Guiana, and looked on as 'a fetish tree.'" (W., 62–3.) Compare with this the representation of the sycomore fig-tree, with the goddess appearing in it, giving food and drink to the worshipper who has deposited his offerings under the tree. Hathor was specially called "the lady of the sycomore," and the well-known hero of the XIIth dynasty tale was called "the son of the sycomore" showing that the tree itself was deified.

41. *Red cattle sacrificed for the hippopotamus.*—"It is not uncommon for a goat to be killed as a direct appeal to the *jok* before hippopotamus hunting. The Tain Dinka . . select a 'red' he-goat, or sheep, because the hippopotamus is 'red.'" (D.) In Egypt red was the colour of Set; the hippopotamus was the animal of Set (see the hippopotamus standard weight from the temple of Set at Nubt); and red victims were sacrificed to Set.

42. *Animal skulls hung up.*—"Another shrine . . . consists of the trunk of a tree, thrust into the ground; the main branches have been broken off short, and part of the vertebral column and horns of a goat have been attached to them . . . the skull and backbone were put upon the post." (D.) "The vain ceremony consists of a sacrifice . . . the bullocks are killed . . . the bones of the sacrifice are thrown away, but the horns are added to those already attached to the *rit*" (a post in front of the shrine). (D.) The earliest figures of a shrine in the Fayum shew a bull's skull on a pole above it; and in the graves of the invaders after the XIIth dynasty dozens of fronts of skulls and horns, of ox and goat, are found, decorated with red and black spots, evidently intended to hang up.

43. *Divination by objects thrown.*—"*Opele* is an oracle . . . always represented by eight flat pieces of wood on metal, or something else, strung together in two rows of four on each side. The dispositions of one or other of these pieces, when the whole ensign is thrown and made to spread out upon the ground, would represent at once a particular *Odu*." (N. 250.) "An ensign made of pieces of ivory, carrying four eyelets each." (N. 255.) "The cola-fruit is commonly used for divination. It is commonly split in halves and thrown upon the ground, the position assumed then by the pieces, with faces up or down, declaring either good or evil." (N. 258.)



2. Pairs of Slate Figures used in Pre-historic Egypt. Naqadeh.

The groups of slips tied together, are like the pairs of slips of slate, often found in pre-historic graves, which always have a tying hole or notches at one end, and which so tied would thus lie in various positions one to another when thrown down. Two such pairs were found in a box, along with a pair of ivory tusks ending in carved heads, in a pre-historic grave at Naqadeh, and recognised then as

being probably a magician's apparatus. The divination by the outside or inside of nuts lying up, is like the modern Egyptian throwing of lots with slips of palm stick, counting the inner or outer sides as they lie. Such was doubtless a method in the Ist dynasty, when slips of ivory were carved, flat on one side, and with the knots of a reed carved on the convex side (Fig. 2).

Material Products.

44. *Red and white pottery.*—The modern pottery of the south of Algier is faced with red haematite, decorated with white slip, of the same fabric and colours as the early pre-historic pottery in Egypt. The geometrical patterns are also closely alike, and it is generally accepted that the Algerian pottery is a continuation of the same style as the earliest decorated pottery of Egypt.

45. *Red and black pottery.*—"The women having procured the right kind of earth break it up on a stone and knead it with water, till it attains the proper consistency; they then mould a round lump, make a hole in the middle, and work away at it with their hands and now and then a bamboo splint. No wheel or mould is used. Sometimes an incised pattern is made while the clay is soft. When finished, the pot is stood in the shade for a day; then they put it out into the sun, and when dry, burn it in an open wood fire . . . . Pots are sometimes coloured red by mixing oxide of iron with the clay; sometimes they have quite a good glaze, and the red surface is variegated with black bands." (W. 205.) This appears to have been the method of making the usual pre-historic pottery in Egypt, with the polished red haematite facing.

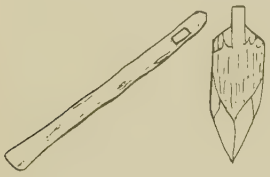
46. *Mud toys.*—"One sometimes comes on a little group of children quietly busy and happy on a bank of a stream, and finds that they are engaged in modelling

3. Mud Toys of Mummy in Coffin and Animals. XIIth dynasty. Kahun.

figures out of clay. One does not see this art carried into adult life; and as there is no attempt to make the results permanent by burning them, they are not often met with." (W. 117-8.) Mud toys were also usually made by Egyptian children, most of those preserved are from the town of the XIIth dynasty, Kahun. Men, women, and various animals are here shewn, and a model sarcophagus and mummy, a truly Egyptian toy (Fig. 3).

47. *Wooden head rests.*—These are usual in Africa, and are sometimes carved. (W., 144.) The head rest began to come into use in Egypt in the IInd dynasty, and was very common in all the great periods of civilisation, of many different types, some elaborately carved.

48. *Natural and compound wooden hoe.*—"The universal agricultural implement is the hoe, which, in this part of Africa, has a short handle, so that the person wielding it has to stoop, but also gains much more power for the stroke than one has with a long handle. The blade is leaf shaped, rounded to a blunt point in front, and tapering to a spike at the back, which is driven into the handle . . . wooden hoes are still used in some remote places among the hills. They have very long rather narrow blades, set into the handle at an acuter angle than the usual iron hoe, but, like it, suggesting the origin of this implement from the primitive forked branch, with one of the ends cut short." (W., 180.) Similarly in Egypt there is the natural hoe cut from a branching tree (Fig. 7), found in the XIIth dynasty, and represented in the hieroglyphs (Fig. 6). Copied from that is the compound

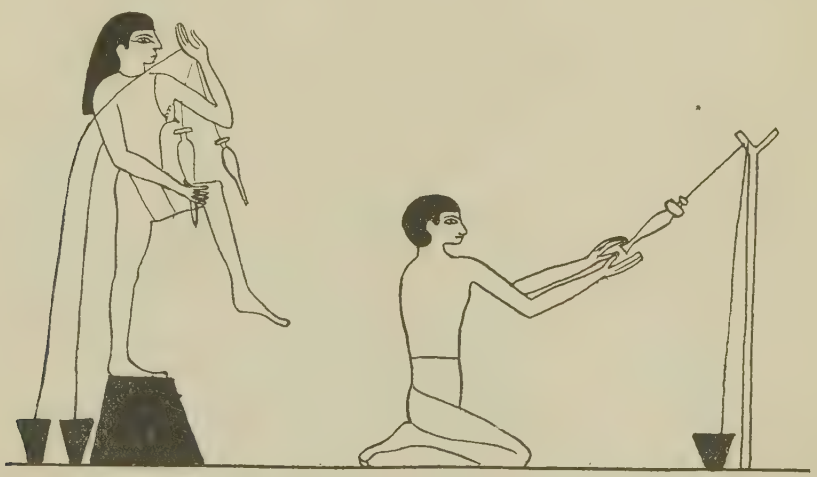


4. Compound Wooden Hoe. XIIth dynasty.

5. Hieroglyph of Compound Hoe.

6. Hieroglyph of Natural Hoe.

7. Natural Hoe. XIIth dynasty.

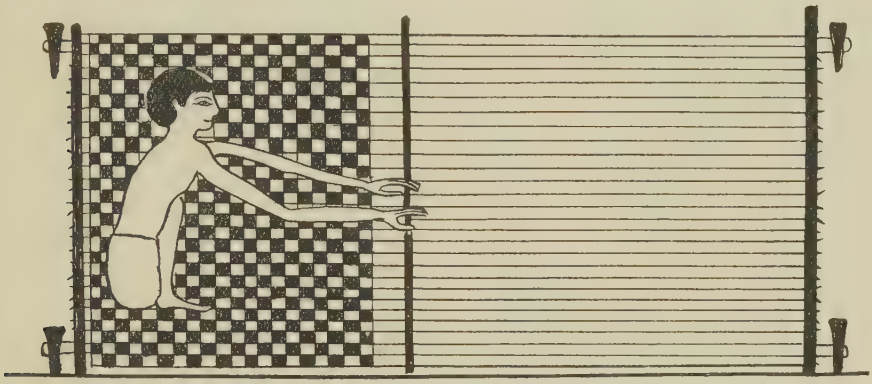


8. Woman and Man Spinning Thread which has been hand-twisted first, the Ball of Twist being here in a Bowl to prevent it rolling away. The Woman is running two spindles, and stands high to allow of a long twist of thread. Tomb of Khety, Beni Hasan. XIIth dynasty.

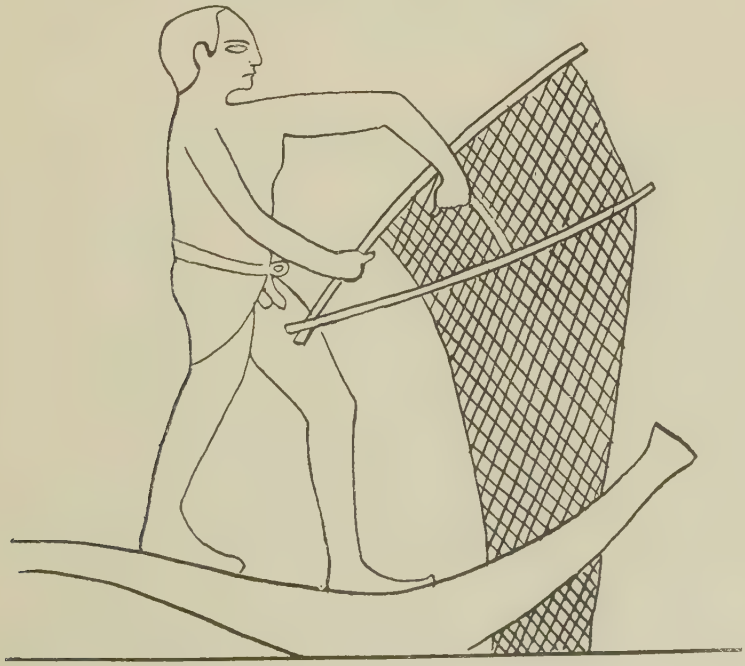
hoe with leaf-shaped blade, pointed in front, and with a spike at the back to go through a hole in the handle (Fig. 4); this is the hoe figured as the hieroglyph *mer* (Fig. 5).

49. *Double process spinning.*—"The spinning wheel is unknown, and the process of twisting the thread by hand, and then spinning it on the *njinga*, a wooden spindle with a whorl or reel of tortoise-shell or hard wood, is a very leisurely one." (W., 195.) At Beni Hasan in the XIIth dynasty is shewn the process of spinning the thread which has been already twisted by hand (Fig. 8). This is by no means a usual process, as the spinning is done direct from the loose wool in modern Egypt, as it also was in Greece.

50. *Flat ground-loom.* "Three or four bobbins-full of thread are used to 'set' the loom, which consists of four posts driven into the ground and connected by cross bars." (W., 196.) The Egyptian loom was likewise flat on the ground between cross bars, fixed to four pegs driven into the ground (Fig. 9).



9. FLAT GROUND LOOM. Tomb of Khety, Beni Hasan. XIIth dynasty.



10. SCISSOR HAND NET. Vth dynasty Tomb of Ptah-hotep, Saqqareh.

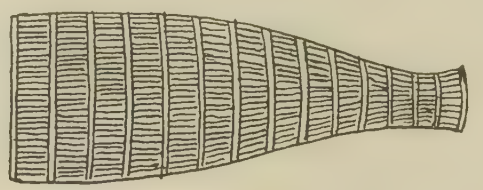
51. *Mosquito nets.*—Sleeping nets are woven of palm fibre; also "sleeping bags used by the River natives as a protection against mosquitoes." (W., 200.) Mosquito nets are described by Herodotos as used by natives of the Nile Delta.

52. *Harpoon.*—"Before going fishing or hippopotamus hunting a man takes his harpoons to the wife of the rain-maker who rubs them with oil made from hippopotamus fat." They try to secure the help of the ancestral spirit "in fishing and in harpooning hippopotami." (D.) The harpoon was the regular fishing implement, first of bone in the early pre-historic age, then of copper, often figured in the Old Kingdom fishing scenes, and lastly of iron in Roman times. The Bunyoro use "a harpoon attached to a long rope made of fibre. To this rope a float is tied to indicate the movements of the hippopotamus till dead." (K., 112.)

53. *Drag net.*—"Nets are anchored with a couple of stones, the upper edge being kept at the top of the water by a line of floats . . . sometimes the ropes are taken on shore, and the net hauled up on the beach, like our seines. This is done with the largest kind of net, requiring twenty men to handle it." (W., 193.) This is the regular pattern of Egyptian net, represented in dozens of tombs of the Old Kingdom, with a line of floats and a line of sinkers.

54. *Hand net.*—"Hand nets are also used like shrimping nets, with handles working over each other, scissor-wise, but kept in place by a cross bar." (W., 193.) Such nets are shewn as used in the Vth dynasty (Fig. 10).

55. *Basket traps.*—On Lake Nyanza they use "basket traps constructed on the principle of a lobster pot." (W., 193.) Similar basket traps were used in the



11. Basket Trap for Fish. VIth dynasty.

Vth dynasty (Fig. 11). "The Bakeni make huge crates of thin plaited cane for fish-traps, in shape much like a water-pot with a very narrow mouth." (K., 213.)

56. *Ring snares.*—"A favourite snare for antelopes is in the shape of a ring, made of twigs and fibre, the centre being entirely filled with huge thorns pointing inwards, leaving only a small circle in the centre. This is set over a small hole in the ground; an antelope treading on the ring puts its foot through, and is unable to withdraw it, owing to the thorns." (K., 117.) Such a trap made of splints of palm stick was found by me some years ago, and is now in the Anthropological Museum, Oxford. On the pre-historic painted tomb at Hierakonpolis is shown a large circular trap of this pattern, with four animals standing around it, to provide game for the deceased (*Hierakonpolis*, LXXVI).

57. *Cone on the head.*—In the Gan country, "The main head ornament is the *giwich*, which is itself made of hair as a basis. The hair shaved off from time to time is carefully saved until sufficient is collected to form a sort of cone, some four inches high, and three in diameter at the base. This cone is usually decorated . . . with strings of white and red beads, . . with small rings of brass, . . the summit . . . with an old cartridge case." (K., 188–9.) This cone of hair (Fig. 12) seems to explain the cone of the same size which is represented on the head in the XVIIIth to the XXth dynasties (Fig. 13). It has never been understood hitherto; but as it was obviously some very light object it may well have been a cone of hair like the modern African, though not bound round with beads and metal rings.

12. Cone of Hair worn in the Gan Country.
Kitching, *Backwaters of the Nile*, p. 127.

13. Cone worn on Head at Thebes. XVIIIth dynasty.

Late influence from Egypt.

There appear to have been at least three periods when influences spread in Africa either from, or through, Egypt. The earlier is under the strong power of the XXVth dynasty at Napata; this kingdom borrowed its writing and much of its culture from Egypt, and spread it to outlying regions of its rule. This, however, did not apparently spread as far as the Equator or Niger.

The great activities of the sixth century B.C. spread as far as the Niger, as is shown by

58. *Terracotta Nigerian heads.*—These are illustrated in our second part (p. 85); the style of art and the solid modelling (not hollow moulding) stamp these as of the same school as the best modelled heads found at Memphis, of the Persian age. They cannot have been derived from the much rougher hollow moulded figures of Ptolemaic or Roman work. The style is admirable, and could not be surpassed for a racial portrait, identical with the present type of the people.

The later influence of the Greek world is seen in

59. *The classical patterns* still used on the Niger, copied from the Greek vine scroll, egg and dart, and other border designs. (See Frobenius, *Voice of Africa*, II, 464.)

The next great wave of influence was due to the spread of Christianity, especially under the pious sway of Justinian. This is seen perpetuated in No. 60.

60. *Interwoven patterns.*—These are found at Benin and other Nigerian centres. This style was originally belonging to the nomads of Central Asia, who developed osier work for their tent life (see the interior of a Kirghiz tent in Skrine and Ross, *Heart of Asia*, 183). It was brought into Roman mosaics of the second century, probably by the Dacian and northern captives. It did not, however, affect architecture till the northern influence on Constantinople, where the interwoven basket capital started; and the interwoven marble screens in Italy do not appear till the Gothic occupation. By the time of Justinian this style was fixed in Roman art; and it must be in that age, before the crushing Arab conquests, that this style was spread so strongly in Egypt and onward to the Niger.

61. *Architectural style.*—"The Songhai seem to have adopted an imitation of ancient Egyptian architecture in clay and wood instead of stone. They in their turn subdued the Mandingos . . . . in the city of Jenne, at the confluence of the Niger and the Bani. From Jenne was radiated over all the Western Sudan a diluted Egyptian influence in architectural forms, in boat building, and other arts." (J., 10.) It may perhaps be more accurate to state that the Songhai have continued the Egyptian style of brick and woodwork, which has been best preserved to us by the architectural copies in stone. The general unity of style in building from Upper Egypt across North Africa is very marked.

In this connection it might be expected that the arguments in a paper on the African origin of the Egyptian civilisation, in the *Revue Archéologique* (1913, II, 47–65) should be introduced. I regret that I cannot accept the statements there brought forward.

After having shown how much of general African ideas and culture lies at the foundation of Egyptian civilisation, and how in a few cases Egypt has influenced Africa, it is needful to say that this by no means covers the whole culture. There was a large influence from Syria in the second pre-historic civilisation. Another, and most potent, influence was that at the founding of the dynasties, apparently originating from Elam, to judge by different connections, especially the style of some cylinder seals. A third great influence in the first dynasty, and all later ages, was the Mediterranean culture, from Crete, and later from Hellas. These other sources made Egypt what it became, although we can see the African substrata strongly, especially in the early periods.

W. M. Flinders Petrie.

PERIODICALS.

Annals of Archaeology and Authropology. Vol. VI. 170 pp., 34 plates. Vol. VII, parts 1, 2. 10*s*. yearly. University Press, Liverpool.

(As one volume, and half of another, have been issued within twelve months, it will be most suitable to take the whole contents in historical order.)

SELIGMANN, C. G.—*Ethnic relationship of the Vanquished represented on certain Proto-dynastic Egyptian Palettes* (VII, 43–9). This is a discussion of the lower part of a palette in the British Museum, with carvings of lions and vultures devouring the slain. The vanquished people have (i) curly or frizzly hair; (ii) a chin tuft, sometimes plaited, and narrow whiskers; (iii) noses which are thick, but not snubby; (iv) thick lips: (v) peculiar circumcision. From these points it is concluded that they were a mixture of negro and Beja tribes of the eastern desert; such people, apart from the negro element, may well have been like the pre-dynastic Egyptians, and the plaiting of the beard is seen also in the figures of Egyptian gods and kings. On the Narmer palette the two running figures, and the man trampled on by a bull, are of this same type, specially indicated by the circumcision, but differing by the hair not being frizzly. Dr. Seligmann claims all the plaited-beard people, whether north or south, as being kin to the pre-historic Egyptians, mixed with negroes in the south, and perhaps with other races in the north; the resemblance however, shewn below seems hardly close enough.

1. TYPE WITH PLAITED BEARD AND CURLY HAIR. Slate palette.

2. TYPE OF CAPTIVES OF NAR-MER.

WAINWRIGHT, G. A.—*The Keftiu-people of the Egyptian Monuments* (VI, 24–83). The main feature of this long paper is the complete collection of all the lesser points of evidence, discriminating the different peoples concerned, and granting that the Egyptians were not merely drawing haphazard but observing details. It is fairly shown that any confusion in the matter lies in the lazy and careless observation of the modern and not in that of the ancient. The land of Keftiu has been variously supposed to be Phoenicia, from the Ptolemaic rendering; or Crete, from a supposed identity of Caphtor with each land; or Cyprus, from vague grounds of position. Max Müller's identification of Keftiu with the eastern part of Cilicia is that which is strongly supported by the results of this paper.

The method here followed is by analysing the mass of material into as many definite items as possible, and then statistically saying what proportion of these items are found in other situations. The various items are set out in plates separately one by one, so that each issue can be judged clearly. This is the only way of dealing with a mass of detail, which otherwise slips over the mind leaving a vague impression. Thus it is shown that the foreigners in the tomb of Rekhmara, who are definitely called Keftiu, bring 59 objects; of these 38 are Syrian, 5 are known to be non-Syrian, while 16 are peculiar, and suffice to show that Keftiu is in some way different from Syria.

The grouping of the various countries in Egyptian records shows that Keftiu goes with the northern and western Asiatics. The order is given as,—the west land, Keftiu, and Asy (Orontes); Naharin, Keftiu, and Mannus (Mallos, Cilicia); Tunip, Ikariti, Keftiu . . . Tikhsi, Naharain (*i.e.*, between Syrian and Mesopotamian places); Naharain, Sangara, Kheta, Keftiu, Asy. These point to the north of Syria. That Cilician was regarded as Syrian is shown both by Sennacherib and Herodotos; and the natural boundary is the great Taurus range and the plateau north of it, rather than a bend in the coast line. Eastern Cilicia is therefore indicated as Keftiu.

The question of the People of the Isles is next considered. Their name immediately follows that of Keftiu in Rekhmara; but there is no reason to suppose them synonymous. On the contrary, the two names are never conjoined elsewhere; they seem here to be those of two different people, stated side by side.

By a process of systematic elimination the products of each region are cleared one from another; these are collected from the tomb-paintings of Rekhmara, Men-kheper-ra-senb, Amenemheb, and Senmut. The objects belonging to the People of the Isles are then compared with those figured in Crete, and shown to be similar. The types of dagger and sword depend upon the marking of the mid-rib; those of Crete have a mid-rib, like those of the People of the Isles and the pre-historic Egyptian; while those of the Keftiu and the Hyksos have only a wide thickening of the blade in the middle, such as is seen on the Egyptian daggers of the XIII–XVI dynasties. The ribbed dagger has a pointed end; the flat-faced dagger has a round end; the one is for thrusting as a rapier, the other for cutting as a knife.

The form of waist cloth differs between Crete and Keftiu; the Cretan is very short, with a loose flap behind; the Keftiuan comes over the whole thigh, and has a point hanging down between the knees; the style of decoration is also quite different.

The sorting of all the material results in there being 87 objects which are purely Keftiuan; of these, 60 have analogies to Syrian objects, 7 are non-Aegean from Rekhmara, and 20 are dissimilar to objects of other lands. The latter show that

we are not dealing with general Syrian products. The various objects are all discussed in detail, showing what comparisons may be brought forward. Among these we may note that copper and silver were both brought by Keftiu people in ingots, and therefore produced in the country. This definitely cuts off the Cretan suggestion, and the silver also bars the possibility of Cyprus, and shows that Keftiu touched the Taurus range. Jeremiah and Ezekiel both refer to silver coming from Tarshish (Tarsos). Another distinction is that gold is shown in the Syrian tribute, but not among the produce of Keftiu.

Regarding the meaning of Caphtor, no very certain conclusion is reached, after reviewing all the opinions. More probably Keftiu and Caphtor are identical, but neither of them can be Crete. The Septuagint translates Caphtor by Cappadocia.

In an appendix various resemblances are stated between the civilisations of Syria and the Creto-Aegean area. These not only show that the Cretan and Keftiuan resemblances are parts of a larger whole ; but, much more, they show how the culture of the North-eastern Mediterranean was a single group, with mere variations locally. This is highly probable, as the area is not larger than the Italic area bounded by Greece and Sardinia, or the Spanish area from Sardinia westward. This paper is perhaps even more important for its method, and bearing on future work, than for its immediate conclusions.

WOOLLEY, C. L.—*Hittite Burial Customs* (VI, 87–98). For the first time we come into close contact with the Hittites, by the objects of daily life recovered from their graves. These have been studied not only in the excavations of the British Museum at Carchemish, but also by keeping in touch with the large produce of the excavations of the Bagdad railway and the plunderings by natives. The periods distinguished are as follows :—

I. NEOLITHIC. Carchemish, Yunus.

BRONZE AGE.

II. Champagne-glass tombs, Carchemish, &c.
III. Early Hittite ?, before 1750 B.C., Hammam.
IV. Middle Hittite, 1750–1100 B.C., Amarna, &c.

IRON AGE.

V. Late Hittite I 1100–718 B.C. } Yunus.
„ „ II 718–605 B.C. } Carchemish, &c.
VI. Persian, 605 to 4th century B.C.

I. Pre-historic. The burials are contracted, and seated upright like Libyan burials. They are in large pottery vases, placed below the floors of neolithic rooms, which are strewn with flint and obsidian tools, and hand-made pottery.

II. Early Bronze. Cists of stone about 8 × 3 feet, are in connection with mud-brick houses. The body is contracted, with bronze weapons and ornaments, and much wheel-made pottery, among which is what is called the "champagne-glass pot," which is almost the same as the tall stemmed incense burner before the Middle Kingdom. Whether this is truly a bronze period, or whether it is of copper, is not stated. This period overlapped the last, burials of both styles occurring together. The toggle pin, with an eyelet a third of the way down it, occurs in this period, and this is known at Gurob in the XVIIIth dynasty, and as far east as Nippur.

III–IV. Early and Middle Hittite. These burials are like the previous, except that they are in cemeteries, and not under houses. Early Sumerian cylinders are found in these burials of period III. Plenty of toggle pins are found, but otherwise nothing in touch with Egyptian types. The pottery is quite clear of such connection, and none of it could be dated from Egypt. The daggers are all smooth bladed, without any mid-rib. From the Sumerian cylinders this bronze age must begin far before the Hittite migration, which came into Mesopotania about 1750 B.C. The Hittites must therefore have come in during the Bronze Age. It is supposed that they were a military caste, small in numbers, which did not largely alter the general culture.

On reaching the Iron Age, cremation in urn burials is found, with bronze fibulae of Cypro-Asiatic type, and imported Greek and Cypriote pottery. The rude "snow-man" figures of clay are found, and as such are common in Egypt about 1100–700 B.C., the dating exactly agrees; probably the source of them there is Asiatic, especially at Tell el-Yehudiyeh. At that place also were found ribbed bronze fibulae, like those of the Hittite graves. (*Hyksos and Israelite Cities*, XXA, grave 321.) Most of the precise detail of the Carchemish graves is reserved for the final publication by the British Museum.

GARSTANG, J.—*The Sun-god[dess] of Arenna* (VI, 109–118). This is a discussion of the well-known description of the official seals of the Hittites, as stated in the Egyptian treaty. A difficulty in understanding it has been in the sun deity being stated to be feminine. This has, however, been found also on a tablet from Boghaz-Keui; as parallels there may be mentioned the Semitic *Shemash* and the teutonic *Sonne*, both feminine. It might be an important clue to some ethnography to classify all people by the sex attributed to sun and moon, as it is a very primitive idea. The broad result is that the queen was heiress of Arenna, and high-priestess of the Sun-goddess there; while similarly the Hittite king was high-priest of the Sun-god at Boghaz-Keui. In each case a minor fellow-deity was associated; the male Teshub with the Ishtar of Arenna, and Ishtar-Kybele with the Teshub-Hadad of the Hittites. The position of Arenna, as capital of Kizawaden, is next considered. The indications are that Kizawaden is Kataonia, as stated in *Student's History*, III, 68; Arenna, however, is not placed at Arana (39° 5′ N., 37° 35′ E.) but at Comana (37° 58′ N., 36° 12′ E.). The ground for this is that in the fifth year of Tiglath-Pileser the mountaineers of Kumani retreated upon "the fortress of Arini at the foot of Mount Aise." The proposed connection entirely depends on the resemblance of the name of Arenna to Arini, while it is at least quite as much like the name Arana. That the people of Kumani retreated to Arini is not at all a reason for identifying Kumani-Comana with Arini, rather the opposite. There does not seem therefore any ground for this proposal of Comana being the ancient capital of Kizawadana. The occurrence of a radiated goddess on the coins of Comana in Roman times is not enough to prove that Comana must be the same as any city which worshipped a Sun-goddess long before.

LEHMANN-HAUPT, C. F.—*Note on the Linen Girdle of Rameses III* (VII, 50). From previous description it is concluded that this girdle was not loom-woven, "but is a product of the old technique of weaving with cards or small wooden boards"; this statement is made in advance of any examination of the girdle, although such only involves going from Liverpool to Manchester.

GARSTANG, J.; GEORGE, W. S.; PHYTHIAN-ADAMS, W. J.; SAYCE, A. H.—*Interim Reports on Excavation at Meroe* (VI, 1–21; VII, 1–24). The general outline of Meroitic remains is summarised in a table, which may be abbreviated as follows:—

EARLY MEROITIC: 650–400 (?) B.C.

Foundation of palace of Aspelut, Hor-ma-ti-leq, etc.
Earlier Sun temple of Aspelut.
Original temple of Isis.
Original temple of Amon, probable.
(*Interval of probably a century.*)

MIDDLE MEROITIC: 300-0 B.C.

I. 300–150 B.C. Ergamenes.
Great stone walls of city.
Foundations of later temple of Amen.
Burial by inhumation at necropolis, by cremation near city.

II. 150–0 B.C. Neteg-Amon.
Royal palace and avenue.
Many buildings of red bricks, crematorium in city.
Baths and observatory,
Sun temple; Isis temple.
Osiris shrine and two great steles.

LATE MEROITIC: A.D. 0–350.

Restoration of baths, with Roman motives.
Palaces and temples.
Restoration of Amen temple,

Period of decline, desertion and destruction.
Overthrow by Axumites, A.D. 340.
Final destruction about A.D. 700.

The result of the last season's work has been to complete the clearance of the whole of the northern half of the city, a space of about 100 × 200 yards, the earth being removed to outside of the area by wire rope and trolleys. For comparison of size we may say that the Egyptian town of Kahun is six times this area, or the Palace of Apries at Memphis is about half this area. The finest period of work is stated to be the middle period of about 150 B.C. The main entrance to the city on the north led up a wide street, with half a dozen trees on each side, which ran along the side of the palace to the middle of the city. At the other side of the palace is a building for a cremation cemetery and a crematorium. "Nearly every chamber enclosed numerous vases, for the most part below the floor level. These were uniformly inverted, and generally contained ashes and bones in a more or less incinerated state." Other chambers in the palace also had similar burials. The vases correspond in form and decoration with those of the Ptolemaic cemetery at Alexandria. This change of burial custom is attributed to Hellenistic influence.

A matter which might prove of great interest is a room supposed to be an observatory. The evidence for this lies in two stone piers, one square, one octagonal, and graffiti on the wall, shewing a man with a circle and lines proceeding from it, supposed to represent a transit instrument. The great difficulty about

any astronomical idea connected with this place is that it is not oriented, but has its axis about 33° E. of N. This direction is not laid out for any special purpose, but is merely that of all the buildings of the earlier direction, across the whole city. It seems impossible to suppose that any observations could be intended in a place where the meridian was disregarded. Any transit instrument would have to be set up entirely askew to the pedestals and the room. A tally of strokes on the wall of the chamber consists of 9 strokes, and then 8 + *n* strokes ; a horizontal line then runs across ; below that are two columns of strokes, one has 15+15+15+5, the other has 15 + 15 + 15 + 10, or 50 and 55 strokes. These are here compared with a statement that at Ptolemais on the Red Sea, nearly in the latitude of Meroe, an interval of 45 days elapsed between the summer solstice and the two dates (before and after) whereon the shadows of the sun were vertical at noon. Now the latitude of Meroe is stated as 16° 56′ 18″ N., and a brief reference to Whitaker's Almanac shews that the sun is at that declination on May 8 and on August 6, 90 days apart. Therefore if this tally shewed the number of days when the sun was north of the vertical at noon, it should be 45 in number, and not 50 and 55. To agree with these numbers the vertical must have been fixed 2° in error, which is very unlikely. The change in obliquity of the ecliptic would not make a single day of difference since that period. The numbers therefore will not correspond to any such observation. On the square pedestal converging lines are drawn, 14° on either side of a quasi-vertical line, which leans $3\frac{1}{4}$° to the north. The sloping lines point therefore at the upper ends 17° N. and 11° S. of the vertical. This angle of 17° N. is said to correspond with the latitude ; but there is no sense in this equality, as it points to nothing in particular. If it pointed to the south it would be in the equatorial plane, were it set in the meridian. Here the skewness of the whole chamber to the meridian again prevents its being possible to recognise any astronomical meaning. The graffiti, which are stated to represent a "transit instrument," look more like a plan of part of the city street ; and the Azimuth instrument suggests a mason's square. It would be fascinating if we could identify the means of observation, but there seems nothing here to prove it.

At 2 or 3 kilometres from the city a shrine of Osiris was found, which was the main discovery of the season. It contained two great steles of sandstone, with long inscriptions in cursive Meroitic, placed one on each side of a shrine, facing west. A copy of the larger stele is given, with an index of all the words in it, and a transliteration. Though very little is yet known of the language of this script, Prof. Sayce has made a first study of the stele, identifying the proper names, and the subject. It was erected by Queen Amon-rênas and Agini-rherhe, hereditary king of Roman Kush, and of the Egyptian frontier and the land of Etbai, hereditary prince of the Romans in Kush. These rulers are also known at Dakkeh, and in previous inscriptions at Meroe. The style of writing is later than that of Queen Amon-shaghêt, whose jewellery—now in Berlin—shews her to have lived in the later Ptolemaic age. The present stele is therefore probably of early Roman age. The captives of the king were offered to serve Apis of Biggeh and Osiris. The second stele refers to the same war, naming victories at Aswan. This is probably the Ethiopian version of the war with Petronius, 24–22 B.C. Amenhetep III is stated to have founded the kingdom of Meroe.

In the previous year the main result was the clearance of the great baths ; the square swimming bath was 21 × 23 feet. There had been several alterations and re-constructions, which obscure the history of the building. The fragments of a column suggest that a shower-bath, some 20 feet high, was arranged. The

great mass of detail in the excavation of this Ethiopian capital cannot be usefully mentioned in a summary, so that only those points which are of independent interest can be here noticed. The brief yearly reports give an excellent view of the results, which will probably appear at some future time in the much less accessible form of a great work, such as the repute of the Ethiopian capital demands.

MILNE, J. G.—*The Currency of Egypt under the Romans to the Time of Diocletian* (VII, 51–66). Egypt had its own native coinage of silver and copper for the first three centuries of Roman dominion. The base silver became steadily worse; at first the tetradrachm, which had been equal to 3*s.* weight at the time of Alexander, started under Tiberius as half silver, and was only credited as being equal to the denarius or 8*d.*; from that it steadily ran down through more and more alloy, and tin facing, until it was nothing but a little barefaced dump of copper worth only about a five-hundredth of the original tetradrachm. Gold was not coined after the Ptolemies, and Roman aurei are rarely found except in a few hoards of treasure. Mr. Milne follows the usual course in writing of "bronze" coinage of Rome; but the Imperial copper was always alloyed more with zinc than with tin, and in some coins almost entirely with zinc, so that the old term, such as "first brass," is the more correct. The sizes of nearly 500 of the copper coins are tabulated, and shewn to fall into five classes, the largest of which are $1\frac{1}{3}$ inches across. The weights of samples of these are taken; and on the ground that the largest coin is likely to be the largest amount of copper named in accounts, it is supposed to be equal to the drachma of silver. As this largest coin averages 360 grains, it follows that the base silver tetradrachm would be equal to 1440 grains or the *deben* weight, which Poole shewed was the original basis of the Ptolemaic currency. As silver was to copper as 120 to 1 in value (GRENFELL, *Revenue Laws*), it would follow that the base tetradrachm would be counted as only containing 12 grains of silver. This would be an absurd result, during the earlier empire. Working the matter from the known facts, the weight of 1440 grains of copper, at 120 to 1, equalled 12 grains of silver or quarter of a denarius, and the denarius was reckoned as equal to the base tetradrachm. The base drachma was therefore equal to the *deben* of copper; and the quarter *deben*, the largest coin struck, was equal in value to $\frac{1}{4}$ of a base drachma or $1\frac{1}{2}$ obols. If the ratio of silver to copper value were 90 to 1 the coin would be of 2 obols; or if it be higher than 120 to 1, then the copper coin was worth even less than $\frac{1}{4}$ drachma. Mr. Milne quotes silver values of 350, 450, and 500 times the weight of copper; but these are so high that we must suppose that complications of base currency somehow come in. In modern times, before depreciation of silver, the proportion was 80 to 1, at present it is only 35 to 1.

The weights of the five classes are about 360, 201, 133, 75 and 26 grains. If on the ratio above we count the largest as equal to $1\frac{1}{2}$ or possibly 2 obols, then the others might be 1 obol, 5, 3 and 1 chalci.

It is remarkable how long the Ptolemaic tetradrachms continued in use; one document is quoted, of A.D. 227, stating that a loan was in the old silver coins. This seems, at first, hard to reconcile with the axiom that "bad money drives out good," which is true when both pass for equal values. That the Ptolemaic coins had not been driven out, shews that all the depreciations that had taken place had always been so quickly discounted in the accepted values, that there had never been a false value current long enough to drive out the old coin.

For a table shewing the fluctuations of the minting in Egypt we are indebted to Mr. Milne in "Historical Studies." A curious feature is the long spells of ten to twenty years during which the mint seems to have been almost disbanded, under Domitian, Aurelius, and Severus.

Other papers hardly touch Egyptian interests, such as Prof. Seligmann's account of the Magico-religious aspect of iron working in Southern Kordofan. A Greek inscription of lists of high priests of Poseidon at Halikarnassos, shews long family descents of two lines, with the length of each priesthood, the result giving nine generations in 352 years; altogether 489 years are recorded, ending certainly before A.D. 43, and therefore beginning before 447 B.C. The notes unfortunately do not give any analysis of this interesting document. Some excavations in Honduras are recorded; and Mr. Mond gives accounts of a practical wire-rope line for moving earth in excavations at Meroe.

The Journal of the Manchester Egyptian and Oriental Society, 1912–13. 8vo, 78 pp. 5*s*. (Manchester University.)

Besides the reports of meetings of the Society there are some special articles on Egypt which deserve notice.

HALL, H. R.—*The Land of Alashiya.* The incised black ware vases, with narrow neck and handle, found in burials of the XIIth–XVIIIth dynasties, are decidedly assigned to a Syrian source, whence they were exported to Cyprus and Egypt. The land of Asi has been supposed to be Cyprus, but the products of the mainland coming from it show that it must have been in the south of Asia Minor, as it is coupled with Keftiu (Mr. Wainwright has since shewn that Asi is the modern Nahr el Asy, the Greek Axios or Orontes). It may be that Cyprus is Tinay or Antinay which once sent tribute, like the Assyrian name Yatnan, which was certainly Cyprus. After reviewing many foreign objects Mr. Hall concludes that there is nothing distinctly Cypriote in Egypt. The references in the Tell Amarna letters do not favour Alashiya being Cyprus. Mr. Hall prefers to see Alashiya on the mainland, between the Khatti and Syria. The use of cuneiform would agree with this position, yet after all he does not decide finally against Alashiya being Cyprus.

A study of the geography of the Assyrian Kummukh, the Greek Commagene, and Tigleth Pileser's conquest, by Mr. King, does not touch on Egypt.

GARDINER, ALAN H.—*A Political Crime in Ancient Egypt.* A further instalment of the letters concerning Pai-onkh has come to light at Berlin. This son of the first priest-king, Herhor, is the main person in the *Correspondence du temps des rois-prêtres*, published by Spiegelberg, a series of letters which has been widely scattered by the chances of digging and dealing. The three letters here were all rolled together, put in a wrapper, and sealed up as done with. The first correspondent, whom we will call A, was the scribe of the necropolis, Zaroi. The second, B, was the bailiff of Pai-onkh at Thebes, called Pai-shu-uben. The third, C, was no less a person than the queen-mother, Nezemt. The main part of all three letters is the same, an order to take two *mazoi*—constables—who had been

blabbing, and have them brought to Pai-onkh's house, and "put a stop to their words altogether. If they (A and B) perceive that it is true, they shall put them in two sacks, and throw them into the water by night, without letting anyone in the land know about it." The slight variations in the letters shew that B was to do the crime, A was to see it was done, and C—the queen-mother—was to verify and authorise the business. The letter to the queen ends with full formal greeting, and then a line of filial affection scrawled at the end "and write to me how thou art. Farewell." The letter to A has a mysterious addition about the king (Rameses XII ? or Herhor ?) being absent, and that gold had been ordered to be sent to Pai-onkh but had not come, and that it was now to be sent at once. How these three letters to different persons came to be put up together is shewn by the endorsed addresses. They had been received; B passed his to A as a voucher, A sent both together to Pai-onkh's private secretary, and the queen did likewise. He then put them all together and sealed them, to go into the archives as business done with. That roll, and the two sacks in the river, close the history of the indiscreet constables.

In a brief paper, Dr. Casartelli warns readers against a hasty assumption that Darius and his race were Zoroastrians.

A note by Dr. Elliot Smith on circumcision gives some evidence that it was preparatory to marriage in Egypt, and not an infantile ceremony, as in Judaism.

Another note by the same author, on mummifying, refers again to the IIIrd dynasty mummy of Ra-nefer, well known and published twenty years ago; it is slightly pre-dated by a mummy at Saqqareh, of the IInd or IIIrd dynasty, which had each limb wrapped separately. What was probably a still earlier instance has been destroyed at the Cairo Museum. The arm of the queen of Zer, of the Ist dynasty, which had the gold bracelets upon it, was elaborately wrapped in a thick mass of the finest linen. It was presumed to be a mummified arm, though the flesh tissue was not recorded at the time. If not mummified, it was an example of the unfleshing of the body, so well known from earlier times.

W. M. F. P.

Sphinx, 1913. (Uppsala.)

M. Henri Sottas discusses the significance of the title *khery-zăzā nesut*, making good use of the ancient second and third dynasty decrees discovered at Coptos by M. M. Weill and Adolph Reinach. He proves it to be one of the honorific titles asserting a close friendship with the Pharaoh, and to be included in the Egyptian hierarchy.

M. Ernst Anderson reviews M. G. Jequier's "The Egyptian Monuments in Diocletian's palace at Spalato." One of these is a sphinx, of interest because it is much the largest specimen of these mythical creatures, of the type which shows the animal holding a vase in its front paws, which terminate in human hands. Around the sphinx's base are a series of cartouches giving the names of vanquished foreign peoples, or tribes; of much value for comparison with, and the completion of, the famous Karnak list, of similar character, of Thotmes III. The Pharaoh's name has disappeared from the sphinx, but it should be that of Thotmes III, or Rameses II. In future this text will have to be considered when editing the conquest lists of these two kings.

M. H. Sottas has a study of the real concept connected with the Egyptian word *Ka*. He shows that the 𓂓 in the singular, and the 𓂓 𓂓 𓂓, or plural, connote different ideas. The first is the double, or spirit of a man, and of a Pharaoh, and will be the seat of his life in the next world. As Pharaohs were already deified when upon earth, that is to say, had passed from mortality to an assumed immortality, they possessed a *ka* whilst living here. The earthly function of the royal *ka* was to personify the king's divine name, and to carry its hieroglyph standard behind the Pharaoh at all priestly functions. No doubt some acolyte of each temple assumed this rôle when the king acted as a sacrificial priest. In a few rare cases, non-royal Egyptians who had been deified whilst still living, seem to have also had an earthly *ka*.

The plural *kau* symbolised the vital forces as personified in certain deities. These gods are clearly displayed as so personified by their *kas* in the tableaus of the birth of deified princes of the royal line of Horus at Der-el Bahri and at Karnak. Ordinary mortals received their vital force of *kau* at birth, but became separated from them at death; whilst a Pharaoh, being deified, and so immortal, did not lose his at his decease.

M. Ernst Anderson, in reviewing an essay by M. Gaillard upon the domesticated animals of ancient Egypt, shows that the Egyptians possessed a race of oxen without horns, as well as kept cattle whose horns had been artificially removed.

The same writer mentions the publication by M. Grapow of six mutilated lines of a third recension of "The Story of the Predestined Prince," which are upon a piece of papyrus at Turin. These have been used by Sir Gaston Maspero for his final edition of this story.

Dr. L. Reutter, of Neuchatel, gives a careful chemical analysis of the ingredients utilised for mummifying birds, and proves that the resinous base consisted of Judean Balm. The other materials used for these avian embalmings were the gum of the cedar tree and of the *Pistacio Terebinthus*. Palm wine was added, probably as an alcoholic solvent of the resins. Natron also was probably utilised, and some special unguent whose nature is indeterminable.

JOSEPH OFFORD.

REVIEWS.

The Eastern Libyans. By ORIC BATES. 4to, 298 pp., 11 plates, 113 figures. 42*s.* 1914. (Macmillan.)

This monumental work is of a kind which is much needed in various branches of history; it is a compilation of all facts and references concerning Eastern Libya, with sufficient discussion in general, and based upon personal knowledge of the country. It is strange how much land lying close to civilised traffic is practically unknown. Myriads pass along the Mediterranean yearly, not one in a generation goes along the shore; tourists swarm up the Nile, not one sets foot on the cliffs which they pass; thousands of Anglo-Indians sail down the Red Sea, while the mountains on either side are less known than Uganda or Arizona. North Africa has stood outside of civilised interests,—the fatal legacy of the Arab conquest. The occupation of Algeria and Tunis has not touched the eastern part; and in the present work Mr. Bates has had an open field without a rival. As a whole the task has been worthily done; apparently exhaustively as to material, clearly classified, interpreted profitably, and swarming with references to the lasting benefit of those who follow. The type is sumptuous, but the drawn illustrations are curiously coarse, and not adequate in detail for so complete a publication. We may now proceed to give an outline of the contents, with some notes on details of Egyptian interest.

The first chapter is on the physiography. The character of the land is described from personal knowledge, with more brevity than most other countries could be treated, owing to its dreary uniformity. The coast and the desert plateaus are detailed, with the itineraries of the main roads, and the oases. The climate and health conditions are fully described, the flora and fauna, and the statistics and life of the people. The glowing account of Berber virtues quoted from Ibn Khaldun makes us wish that such an excellent people had more effect on Southern Europe. That such men have not vanished is shown by the splendid character of Abd el Kader. Perhaps they have a future yet before them; tens of thousands of Algerians are already brought into France as agriculturalists, to supplement the waning population. If Europe empties itself in a great war, it seems likely that the Moor will be one of the immigrating races to fill up the vacancies.

The second chapter on the ethnology is a mass of detail, which needs much research for its simplification. The basic race is said to be Hamitic, "a type tall, spare, long-limbed, and dark; hair black or dark brown, straight or wavy, head dolichocephalic, orthognathous, nose slightly aquiline or straight; eyes dark and piercing, set rather widely apart; mouth well-defined; facial capillary system slightly developed; movements generally slow and dignified" (p. 39). How far such a type is the product of the land, is the question. It seems in most points to be closely adapted to the conditions; yet it is of a higher nature than would be likely to be produced by such a poor region. May we then not see in these people immigrants from a more favourable country adapted to the Saharan fringe, and

therefore not obviously at one with their original stock? This Hamitic people have in the south-west received a negro mixture. In the north along the coast there is a brachycephalic Berber race, and in the mountains a blond population, both of which are intrusive. The blonds are not due to the Vandal immigration, as they are represented on the monuments of the XIXth dynasty. The earlier figures of Libyans are, however, brown; may not this difference be due to the Egyptians at first only knowing the Eastern Libyans who are dark, and the fair Libyans who came forward later, having come from the Algerian mountains and Morocco, where they still live?

On the more detailed question of the position of various tribes named by the Egyptians, Mr. Bates prefers to ignore the close connection of the various names with those in Algeria and Tunis. Eight tribal names are found in that region, while only two can be also paralleled by names of the Eastern Libyans. The fact that the XIXth dynasty Libyans are fair might be a warning to us that they came from the region where fair races can now dwell, and not from the Eastern Libyans who are dark. The persistence of names is often under-rated, but we have to deal with only a short time—less than a thousand years—between the Egyptian wars and the classical geography. In England, in spite of the crushing Saxon and Danish immigrations, half of our cities bear British or Roman names of two thousand years ago. In Italy, Greece, or Syria, nearly all the names are ancient. Such persistence, naturally, does not appeal to the American mind. The supposed evidence as to the distance of the tribes, three weeks' march from Egypt, only refers to the distance of their mobilisation for the final march over the barren region near Egypt, and has no relation to the distances they moved in order to be gathered together. The mixture of those tribes in one army with the Shardana and Shakalsha points again to their being in the Algerian region, near Sardinia and Sicily, and not in Tripoli which had small attraction for European races. The whole of the tribal names known in different later periods are here set out, and illustrated in a series of maps, which are of great value for reference.

The next chapter deals with language and writing. The various opinions on the origin of Berber are stated. The mutations of sounds between the different dialects are illustrated. Some principal descriptive roots in place-names are discussed in connection with modern Berber; and it is noticeable how most of them are Italic roots; D R R, mountains, *durus*, rugged; M ' R, M Ġ R, great, *maior*, *μακρος*; *thagura*, shelter, *tugurium*, a hut; L G, a well or pool, *lacus*, a pool; K B, summit, *caput*, head. The persistence of the Berber roots from Egyptian times is noted; and lastly parallels are given between twenty Egyptian and Berber words. Such connections, and the grammatical similarities, show a strong connection,—perhaps an underlying common speech, which was differently developed and modified by immigration in each country.

The Berber writing is shown to have largely survived from ancient to modern times, like all other alphabets that we know. The old idea of the importance of Phoenician origins is not shaken off; for though stating that "The non-Semitic part of the alphabet is composed mainly of those signs which from their distribution might almost be called Mediterranean, and which are seen in the Celtiberian and Turdetan alphabets of the west, in the Cypriote syllabary, and even in Minoan Crete," yet six signs out of thirty are reserved as claimed for Phoenician descent. It is far simpler to regard the whole as part of the Mediterranean signary, which—long before it was used for writing—is found used as personal marks upon property in Egypt.

The chapter on Economics is full of interest, as dealing with the means of living and trade in a region which, by its barrenness, presents so many difficulties. Cattle were naturally the most important wealth in early times; but agriculture was followed in the XIXth dynasty, and became so important in the middle region that the treatise of the Carthaginian Mago was translated as the standard work for the use of Romans. The views of Ridgeway as to the Libyan breed of the tall horse are here rejected, and we are assured that they "were little more than ponies." This does not agree with the tall horses in the chariots figured on vases.

Society and government is briefly discussed. The laws of marriage and inheritance are on a par with what seem to have prevailed in early Egypt. There was much influence of matriarchy, although among the wealthy classes there was unlimited polygamy. A curious distinction at present among the Imushagh is that property acquired by work is inherited by children, but plunder is inherited by the eldest sister's eldest son. The primitive kind of acquisition still goes in the primitive descent. A curious remark is made that in the genealogy of Horpasen, no man is stated to have more than one wife; but, as that is a strict genealogy, the fact that no man could have two mothers, at once limits the case.

Dress and ornamentation is next described. It is remarkable that the upper class Libyans of the XIXth dynasty are shown with long robes down to the calf of the leg, much more clad than the Egyptians. This again points to the later Libyans having come from the colder highlands of Algeria. The earliest Libyan figure on the gaming reed of king Qa is misinterpreted. The face is unquestionably Libyan (see the Antaeus given by Mr. Bates on p. 260, and the Mashuash in "Racial Types," 154, 164–6), and the name *sethet* over it belongs to (1) people of the regions of the 1st cataract, or (2) to Asiatics. As Mr. Bates is particular to recognise a branch of Libyans at the cataract, in the so-called C group of graves, the name, as well as the portraiture, points to the Libyan race. Another figure of which Mr. Bates denies the Libyan connection (p. 118) has the Libyan lock of hair, unlike that of any other people, though unplaited as in figs. 17 and 22. The similarity of pattern between that on a Libyan robe and on Sardinian pottery is an excellent connection of design (fig. 16).

The sheath worn by the men is fully illustrated and described. In the pre-historic figures (figs. 18, *a*, *b*) the top of it shews a strong suggestion of a dagger handle (see fig. 59, *c*, *d*); is it not possible—as daggers were then used—that the dagger was worn in front, and combined with the male sheath? If so, the wearing of the dagger may have first suggested the protection of a sheath for the person. It is a Germanism to call it "penistasche," by no means "known to archaeologists," as the names sheath, *etui* and *cornet*, are in proper use outside of Germany.

The patterns of the belts are figured, apparently using plates of shell, which was a favourite material in pre-historic Egypt. The exact resemblance of the hat of Arkesilaus on the vase painting to a modern Saharan hat is one of the happiest parallels; it shews how even trivial details may survive for thousands of years in use. In connection with the Libyan tatuing, which is figured from Tell el Amarna, the similar tatuing on the skin of the mummy of Ament, priestess of Hathor, of the XIIth dynasty, in the Cairo Museum, should be noted. The well-known emblems of Neit tatued upon the Libyans of Sety I are figured and discussed, in agreement with the general opinion that they indicate a regard for that goddess.

The material culture and art is an important chapter, though in the absence of any trace of the early Libyans in Libya itself, our knowledge is very imperfect. The objects used, or yielded as tribute, by the Libyans are largely reckoned by

Mr. Bates as imports into Libya, the vases from Syria, the swords from Sardinia. The lack of metal weapons in classical times is used as a strong argument for the metal of earlier times having been imported. If so, it implies that there were corresponding exports of large value from Libya. What can such exports have been? The nine thousand copper swords taken by Merenptah must have cost a large export for the Libyans to purchase them. It is hardly relevant to bring in the well-known Fayum desert flints in discussing historic Libyans. The age of these, indicated by their colouring, is long before the periods otherwise discussed; and the absence of flints of these types from all known periods of Egyptian tombs points to their being earlier than even the pre-historic civilisation of Egypt. Only one flint shewn, No. 32, is of Egyptian type, of the middle pre-historic age; and that probably is a stray specimen, and not of the Fayum class.

The various articles of modern Imushagh furniture are listed, with the parallel list of the ancient objects so far as recorded. The awls which it is said they must have had for leather work, were doubtless the sharp pointed fish jaws so commonly found in Egyptian town sites, evidently collected as borers.

The poetic system of modern Imushagh verse is described, as illustrating the description of the ancient religious songs. It appears to be much looser and more casual than any ballad verse of Europe, perhaps nearest the Italian impromptu couplets. With the exception of one imitation of an Egyptian stele there is nothing that can be called Libyan art, for figures that are obviously under Graeco-Roman influence do not count. In the architecture there are very few stone megaliths in Eastern Libya. Those in North-west Africa are in one group with the western European megaliths, and Mr. Bates reasonably concludes that the people who erected them were the blond race which appears to have come down through Spain. The strongholds are mentioned by Diodorus and Pliny, and may be identified with various rude-stone structures, having a ditch around, and buildings on the plateau. The slighter dwellings were booths with tall conical roofs, which formed the outskirts of the Roman towns, and were probably such shelters as the Therapeutae used in their camps. The farms were more permanent thatched huts.

The religion demands more space than any other chapter. Sacred stones and their worship, and the animism seen in the wind are first dealt with. Then tabu animals, divination, rain-craft, and magic. Burial was important among the Libyans, mostly contracted; but though the Egyptian laid the corpse on its side, the Libyan placed it seated upright. Piles of stones and offerings occur, as might be expected.

The list of Libyan gods is larger than might be hoped. The first, Ash is probably the same as *ăăsh*, a divinity in the 95th Chapter of the Book of the Dead. It is not connected with figures on the early sealings, which are quoted. Those are of Shu, sometimes written inverted as *ush*, but then with the single upright feather of Shu on the head of the god. (*R.T.*, Sealings 178, 179, 199, 200.) A god named Shaheded appears in personal names, connected with a bilingual inscription where Latin SACTVT is in Libyan SKTT. Sinifere and Mastiman are known from Corippus. The "Libyan Poseidon" is not identified with a native name; nor is the god Triton, also named by Herodotos. The Sun-god is said to have received sacrifices, and is later identified with Hammon; at the Ammonium in Siwah was a fountain sacred to the sun. But the native name of the sun was Gurzil, who is said to be the son of the prophetic god of Siwah, otherwise identified with Amen. Thus the connection with

Amen-Ra is shewn by either belief. The name and worship of Gurzil, as Gurza, lasted down to the eleventh century.

A long discussion is given to the oracular Oasis god, here called *Deus Fatidicus*. He was the native god, and his form is apparently given as an embalmed figure, seated and entirely wrapped over in bandages, without the head projecting. Three such figures were found at Karnak, named as Amen. Two other representations of such bandaged figures on thrones, but with the head of Amen added, are on a relief at Karnak, and on an engraved (not "etched") mirror. This kind of representation, it is suggested, is like that of the wrapped up human sacrifice, the *teknu*; and it should also be noted that the early *teknu*, in the XIIth dynasty, has no head (QUIBELL, *Ramesseum*, Pl. IX). As the Libyans buried the wrapped up dead seated, this attitude of the god agrees to its being an embalmed body. What may be the connection of this entirely wrapped up Amen, and the name of the god meaning "the hidden"? Mr. Bates protests that there is no evidence that the oasis of Siwah was Egyptianised earlier than the XXVIth dynasty; but may not a protoform Amen underlie both the Theban Amen and the Siwan? Another point which should also be searched out is that the Carthaginian form is always *Haman*, and the Latin form of the oasis god also has the aspirate, Hammon.

A vague Sky-god is identified with Saturn, and appears in some dedications. The special Ausean goddess, described by Herodotos, is conjectured to have been the Sky-goddess. The western origin of Neit is discussed, and concluded to be most probable. In a note, the arrows of the sign of Neit are said to have a concave cutting edge; but in the clear examples—such as the great stele of Merneit—the arrow head is straight, and the actual arrows found have straight chisel ends of flint, never concave. The concave end is only found in the larger lance heads, such as the one figured (VIII, 32) which is pre-historic Egyptian and not Libyan.

A summary of the history of Libya concludes the work. The whole of the records are discussed, and put in their historical position and relative conditions, in a very clear and satisfactory manner. We may only note that (p. 212) the pectoral of Senusert I, should read S. III; and the statement that the Prince Sheshenq appealed to a king of the XXIst dynasty has no monumental dating to fix it, the statements (p. 228) all depend on the supposed Libyan origin of the "Man of Susa"—Sheshenq, which is improbable. Pheritime for Pheretime, and Harcoris for Akhōris, need correction.

Five appendices discuss collateral matters of value. The first deals with what are known as the C group of burials in Nubia. These Mr. Bates connects with the Libyans, adducing similarity of type, circular superstructures to graves, cross bands worn by men and skirts by women, feather on head, tatuing, pottery, and some other details. He concludes that they were of the Temehu. The second appendix deals with two Gheytah inscriptions, claiming that they are in a South Arabian script. The alphabet proposed seems to vary quite as much from those forms as does the Libyan already suggested. The third appendix deals with the traditional origins of different Libyan people; the fourth with Biblical references to Libya; the fifth with the type of the Libyan giant Antaeus on a vase of Euphronios, shewing the Libyan features, like the Mashuash 154, 164, in "Racial Types." A dozen pages of bibliography and various indices complete the volume.

Such a comprehensive work is only possible where our knowledge is not extensive. On any well-known race any one of the chapters might well exceed the size of the whole book. It is a kind of summary which is greatly needed for

various less-known countries, and it will serve as a starting point for fuller research in several lines. It is moreover not a book-man's compilation, but a reading of all the material from the point of view of a personal familiarity with the land and the modern people. We hope that Mr. Bates may yet produce much more of such solid and comprehensive work; with perhaps a more cautious investigation of matters where he may happen not to agree with other writers.

Egyptian Blue.—LAURIE, A. P.; MCLINTOCK, W. F. P.; MILES, F. D. 8vo., 12 pp. (*Proc. Royal Soc.*, Vol. 89, 418–429.) The brilliant shades of blue and green used in Egyptian colouring have always been attractive, whether applied as a paint, or fused in a glaze; while, unless exposed to continuous moisture, the colour is unchangeable. The same colours are found to have been used in glazes from pre-historic times, and as a wall paint from the XIIth dynasty. From Egypt they passed to Greece and Italy, and balls of blue paint are among the colours found at Pompeii. The method by which this colour was made was first illustrated by excavation in 1892 (*Tell el-Amarna*, p. 25). Pebbles of white quartz were ground to a coarse powder, mixed with alkali, lime, and copper ore, and then heated so as to combine slowly without actually melting. This produces a frit, or porous mass of crystals, which can easily be ground down to a powder. The alkali—potash or soda—attacked the silica, and then handed it on to the lime and copper; thus was gradually formed a silicate of lime and copper. The shade of it depended on the proportion of copper in the blues, and the presence of traces of iron in the greens, while the depth and richness of colour depended on the length and amount of the heat. The reproduction of the colours was carried out with great success in the hundreds of experiments made by the late Dr. W. J. Russell, of which he published an outline in *Medum*, pp. 45, 46. He found that the silica was sixty to eighty per cent. of the whole, a very delicate greenish blue was made with three to five per cent. of copper ore, a full blue with ten, and a rich violet with twenty per cent. An ordinary brown sand contains enough iron to give a green tone to the blue. Further details on the manufacture were found at Memphis (*Historical Studies*, p. 35). The colour after being formed in pans, as found at Tell el-Amarna, was made up into balls, some ·3, some 1·2 inches in diameter. These balls were placed in large jars of pottery, lids were sealed over the mouths; and then the long roasting for many hours, which gave the finest colour, could be carried on without the air or furnace gases reaching the balls. As the pottery of the jars contained iron it would discolour the balls if in contact with them; the jars were therefore lined with a thick coat of blue colour, so that the iron discolouration never passed through the lining, which was about a quarter of an inch thick. This shows how large a part of the material the Egyptian would sacrifice in order to get the finest result. Some of the linings were of most magnificent purple-blue colour. This will serve just to show how the subject stands from the point of view of actual finds of objects.

The paper above named takes up the questions from a laboratory point of view. Dr. Laurie examined specimens of blue on a coffin of the XIth dynasty, on XVIIIth dynasty samples from Gurob, on Knossos frescoes, on Roman samples from the Palatine frescoes, and from Viroconium. All of these were similar in nature, a truly crystalline compound identical in its character. On studying the samples which Dr. Russell had prepared, together with his notes, it was seen that where lime was used without alkali, repeated heating and grinding was needed to attain the blue colour; where alkali was also used the colour was got in the first heating, as it acted

as a solvent. Alkali alone, without lime, only produces a blue glass, and not the true crystalline blue.

Experiments were then made to find the conditions of heating required. The batches were kept uniformly heated for sixteen to twenty hours. That at 760° centigrade was very imperfectly combined, at 800° it was better, at 830° there was still much uncombined. By grinding and reheating at this temperature, however, the blue was completely formed. At 890° and 905°, cherry-red heat, it was overdone. As a trial some was heated up to 1,150° (white heat, melting of cast iron) and to 1,400° (dazzling white heat), and a green glass was formed ; when this was toasted at the 850° point, the true blue was reproduced. One sample was absolutely fused in the oxyhydrogen flame, but two days' heating at 850° brought it to a brilliant blue. Thus it seems immaterial what happens first to the mixture, so long as it gets a day or two of toasting at a moderate red heat. This exactly accords with the Egyptian practice of heating in sealed jars, as at Memphis. It is remarked how narrow a range of temperature is needful ; one twentieth of the heat, more or less, and the process is spoiled. The Egyptian must have watched his furnace very carefully to keep up the exact heat for so long a process.

The proportions of the mixture were then varied, keeping to 850° as the best temperature. When the alkali was a fifth of the whole no blue was formed, as it dissolved in the alkali as a green glass ; with a seventh a frit resulted with some blue ; with a twelfth of alkali the result was excellent. On using only silica lime and copper without any alkali, overheating to produce combination, and then toasting at the right heat, a little blue resulted, but the process was not practicable. With only a twenty-fourth of alkali, and overheating, with subsequent toasting, a full blue can be obtained, but slowly. As the Egyptians had not a pure alkali, a sample was made up to correspond to the native natron, and this with forty hours heating gave excellent results. A sample was then completely freed of uncombined material and of fused glass, by usual chemical means, and the analysis of the true blue crystals gave

Silica	63·4
Lime	14·4
Copper oxide ...	19·5
Potash	1·1
Soda	·9
	99·3

This corresponds very nearly to the formula originally stated by Fouqué, $CaO, CuO, 4SiO_2$, crystallizing in the prismatic (tetragonal) system.

At the close of the paper are some speculations as to how the Egyptians originally discovered the colour. Unfortunately Dr. Laurie accepts the theory of Mr. Burton that the Egyptians carved objects of sandstone and then glazed them. For several reasons this is entirely impossible. No sandstone is known in Egypt of texture or quality approaching that of the base which was used for glazing. The base shows in its body, when fractured, spherical hollows which were evidently bubbles of air, included, when it was being made up with water, artificially before baking. Lastly, the forms found in all periods, such as long tubular beads, would be impossible to cut out of a solid piece. The utmost that can be allowed is that dry blocks of material, after moulding, may have been trimmed in the details before glazing. This is often seen in the case of minute retouchings, but it was certainly not the case on the general forms. The multitude of moulds for moulding the

figures of gods and every kind of ornament, show that damp moulding was the rule. Only a sharpening of the detail was done on the dry material after moulding. The careful exclusion of iron from the base is remarkable; no native sand so white is known in Egypt, and it must have been carefully prepared artificially to remove the iron, in order to prevent the blue colour of the glaze being spoilt. As some of the earliest glazing is that on clear quartz crystal beads it seems very likely that glazing was developed in the course of copper smelting. The wood ash of fuel would give the alkali, and lime and silica would be in the copper ore. Such a coloured slag, or a glass run from it on to the pebble floor of the furnace, would then be the starting point for artificial imitations.

Incarnation (*Egyptian*).—WIEDEMANN, A., 4 pp. (Hastings' *Dictionary of Religion and Ethics.*) This article is a valuable one for the explanation of ideas, and for the insight into Egyptian modes of thought. It is written with the sympathetic feeling which has made the author's other works on the religion so much appreciated. To begin with, the Egyptian frame of mind is explained, which thinks of the individual instead of the class, of the limb instead of the man. Actions were expressed as "my eyes see," "your legs walk," "his hand strikes"; classes were said to be of "each men," "each legs"; the whole was stated as "to its limit." This love of the extremely concrete, and lack of abstractions, pervaded all Egyptian ideas of divinity. Where expressions of omnipresence are used, it is only as a flattery of the deity, like similar qualities attributed to the king.

The name was an entity independant of the object, and not identical with it; and the various names of a deity were independant subsidiary deities. The statues retained some of the divine personality of a deity that had entered them, and became separate deities who no way detracted from their original inspirer. Thus we can understand the co-existence of many forms of a single deity in one place; each had its individuality. May not something of the same frame of mind be traced in the various local names attached to different worships of the Virgin in Italy?

Similarly the dead could be availed of various embodiments, such as a bird, a serpent, a crocodile, or the god Ptah. This is not metempsychosis, but the capacity for any form of embodiment. The dead could also assume a human form. The mummy was the greatest of all dwellings for the spirit; and it was through its incarnation in the mummy that it could again by spells enjoy all the good things of life which were figured in the tomb.

The sacred animals were the special seat of incarnation of the gods. Though the animals were the aboriginal deities, yet the old worship was blended with the more spiritual deities of the prehistoric civilisation; and the deity of a tribe settling in a district was identified with the aboriginal animal god of the place,—Ptah with the Apis, Amen with the ram, Horus with the hawk.

Man was not a single whole, nor were the gods. Each was a complex of many constituents which happened to be united. A striking case of this is where the king acting as a priestly ruler, gives offerings to himself as embodied in a figure of divine character.

Various ideas were personified. The emblems of life, power, or stability were figured with limbs carrying emblems of the king. The senses, and abstractions, such as time, joy, or darkness, are deified, receive homage, and are supplicated.

The incarnation of a god in the king, by divine descent, is familiar in many scenes, as in the temple of Luqsor shewing the divine conception of Amenhotep III,

or that of Deir el-Bahri concerning Hatshepsut. In other myths any particle of a god could be used to frame a magical object, which might even be to the detriment of the god himself.

Incarnation was also claimed by magicians, who asserted their embodiment of a god, and demanded obedience in consequence. Similarly the mourning women who personified Isis and Nebhat were inscribed with those names. The gods might also be incarnate in animals; and the weird range of transformations in the story of Bata shews the unlimited possibilities of such ideas. Any one touching on these subjects should certainly study this article, with its full references and authorities for each point stated.

Museum of Fine Arts Bulletin.—Boston, August, 1914. 10 cents. This contains an account of the new arrangement of the Boston Museum. It is now in five divisions; first the Primitive Egyptian Room, or Pre-Khufu, as it might be called; in this is a separate case for each class of prehistoric pottery, for stone vases, for personal objects, and for stone dishes and weapons. The second room is for the Old Kingdom, where the fine seated figure of Khuenra, and other statues, with the complete outfit of the architect's tomb, will represent the period. Thirdly, the mastaba gallery has fine tomb sculptures from Saqqareh. Fourth, the Hyksos series is very rich, from the cemetery of Kerma, which we described in the last number (p. 138). Lastly, in the loggia are the stone and gold necklaces of the Middle and New Kingdoms, bracelets, earrings and amulets. Three views in the museum are given, and illustrations of half a dozen early Chinese bronze vases add to the interest of this number.

The Boomerang in Ancient Babylonia.—NIES, J. B., 7 pp. (*The American Anthropologist*, Vol. 16.) The requirements for a true returning boomerang are here given, and the opinion of a professed thrower that the Egyptian bent flat sticks, with one face flat and the other convex, would return if thrown high at birds. Examples are given of the form of the Assyrian sign *geshpu*, shewing that from the time of Gudea back to the prehistoric, the earlier the form the more near the boomerang shape. As among the meanings of the word is "throw, strike, destroy, turn, return, deviate," it seems very probable that it represents the returning boomerang.

Les Nègres d'Afrique.—OVERBERGH, C. VAN, 8vo, 276 pp. (Dewit, Bruxelles.) This volume is an outline of a great work on Descriptive Sociology, of which ten volumes on Africa have been published. The introductions to these volumes are here given, together with the table of classified contents. The system of tabulation of results under 202 different headings is a sight to stimulate recording and research. Unhappily we fear that all scientific work in Belgium will long be in abeyance, so that we can hardly hope to see the volumes on Egypt which were in the programme of this enterprise.

NOTES AND NEWS.

A great loss has befallen Egyptian work, in many directions, by the sudden death of Dr. JAMES HERBERT WALKER, M.A., M.R.C.S., L.R.C.P., which took place on July 21. We are sure that all who knew him will deeply regret so sad a loss. Those connected with the British School will feel it the more, as his official connection with that body as co-Secretary, since its constitution in 1905, had bound his personality and his work so closely with the rising fortunes of the Society. His especial charge in that work was the American branch, the correspondence of which was chiefly in his hands. His loss will be also personally felt at University College. He had joined the Egyptian classes there at the beginning of the department in 1892, where he was the most promising student of Mr. F. Ll. Griffith. After Mr. Griffith resigned that teaching, his successor was Dr. Walker, and from 1903 until this summer, a series of students have owed their interests in the higher branches of Egyptian language and Coptic to the enthusiasm and the ever-patient teaching which he had given them. Those who knew him more personally remember the constant help that he always gave to every call on his time or attention in the most kind and generous manner. We can but repeat the words of one who knew him well: "I never knew him say or do an unkind thing. He was a single-minded, simple, honest English gentleman, whom it was an honour and a pleasure to know. His early death has left an aching in many hearts." Our deepest sympathy is given to Mrs. Walker in such a sudden and terrible blow.

The care of our American branch, which has been so suddenly deprived of the management of our lamented Secretary, Dr. Walker, will in future be taken in charge by Mr. Percival Hart, Grove Lodge, Highgate, London, N.

The Annual Exhibition of the British School at University College was attended by double the number of visitors that have come to any previous archaeological exhibition. The astonishing view of the jewellery of Princess Sat-hathor raised an interest which spread far beyond those who previously cared for Egyptian matters. In other directions also there was a large show of fine things, and the museums of places that had helped have received a good return.

The present horror that threatens to submerge European civilisation and shift races like the ancient migrations, is bearing heavily on all science and culture, and will have its effects for a long time to come. It has temporarily withdrawn many workers who were helping the researches of the School.

Mr. Brunton is in the Hospital Corps at Netley.

Dr. Amsden is medical officer of the Royal Sussex at Cooden Beach.

Mr. R. Engelbach has joined the Artists' Corps of Territorials, and his results of last year's work can scarcely be prepared until the war is over.

Mr. Battiscombe Gunn, who was copying and translating the inscriptions of the year, is shoulder to shoulder with Mr. Engelbach.

Mr. Duncan Willey, who excavated with us last winter, is in the R.A.M.C.T.

Miss M. A. Murray may be called off at any time, being an organizer of the Voluntary Aid Detachment of the College Women's Union Society.

Of our previous workers, Mr. Horace Thompson is in the Oxford and Bucks Light Infantry.

Mr. Mackay is leaving England to continue the conservation of the Theban tombs.

Mr. Quibell has now returned to Egypt to take up his duties as Curator of the Cairo Museum.

Mr. N. de G. Davies and Mrs. Davies have resumed their copying of the Theban Tombs.

Mr. Somers Clarke is also now returning to Egypt.

What may happen in Egypt, and what chance there may be for work there next winter, no one can yet foresee. We trust that M. Lacau will find that his health, and the conditions politically, will allow of his taking up the burden of administration which Sir Gaston Maspero has now resigned. It is an unfortunate feature of our present system that scientific workers, when most able, are called from research to the business administration of public services. The foremost scholars in different lines have all had to sacrifice science to the details of office work. It ought to be recognised that all office routine is the province of a lesser type of mind than that of the foremost in scientific work, and only the decisions of important questions should fall on the specialists who may be the leaders in their own subjects.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

It is too early in the season to collect detailed information regarding the winter meetings of the branches, and the prospects of only two of the branches can be mentioned here. Several Hon. Secretaries have expressed their conviction that it is desirable to continue the meetings during this winter. These quiet meetings with lectures and social intercourse are neither frivolous nor tending to expense, and we must encourage the constructive side of life in this time of war.

London. (Hon. Sec., Mrs. Sefton-Jones, temp. address, c/o Edwards Library, University College, Gower Street, W.C.)—Meetings, monthly, at 8 p.m., lecture, 8.30 p.m. Oct. 29, at University College, Gower Street, Prof. Flinders Petrie, on "The Use of Metals in Egypt." Nov. 5, at 10, Lower Grosvenor Place, S.W. (by kind invitation of Mrs. Purdon), the Lady William Cecil Baroness Amherst of Hackney, on "Excavations of Tombs in the Gebel Qubbet el-Hawa." Dec. 10, at 29, Tite Street, Chelsea, S.W. (by kind invitation of Mrs. Percy Bigland), Mrs Lewis, D.D., on "The Sinai Gospels."

Hastings. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Dates fixed later. Major Davenport, on "Ancient Egyptian Jewellery." Dr. Spanton, on "The Egyptian Water Lily." Rev. J. D. Gray, on "Neolithic Man." Mrs. Court, on "Sign Language."

Hilda Flinders Petrie.

THE PORTRAITS.

Two of the best portrait figures are here given to show the entire difference in style and feeling between the Old Kingdom and the XVIIIth dynasty.

The statue of Ranefer is one of the finest figures of the great nobles of the Pyramid Age. The art of their time has perhaps glorified their nature; yet an age which could support such art must have had magnificent ideas and leaders. We may therefore reasonably look to that splendid period as one of the great flowering times of the human race, like the age of Pericles or of the Florentines. In this statue we do not see the expression of mental and moral power only, as in Khufu and Khafra; but also of intense activity of body, will, and resolution. Though strictly a passive figure at rest, yet we see marvellously rendered the tense reserve of energy in the whole air, the firm muscles, the decisive pose, the unflinching authority of a great leader in a system, who yet was not an autocrat. The statue was found in the tomb of Ranefer at Saqqareh, and is now in the Cairo Museum.

As a complete contrast look at the statuette of an officer of the XVIIIth dynasty, carved in ebony, with gilt collar and armlets. In every point it shows the soft, self-indulgent, indecisive type of the later age. The head leans forward, instead of being supreme in bold dignity. The shoulders slope and round, the arms are lax and soft. The trunk is rounded, with softer breast and fuller stomach, beneath which the belt is pushed down. The legs are round and not firmly planted. In every detail is seen the weakness, the graceful refinement, the incipient decline, of a period which attracts more by its picturesqueness than by its strength. The figure was found in 1860 in a tomb at Thebes, and is now in the Berlin Museum.

STATUE OF RANEFER, Vth DYNASTY.
IN LIMESTONE. CAIRO MUSEUM.

STATUETTE OF AN OFFICER, XVIII DYNASTY.
IN WOOD, BERLIN MUSEUM.

Since going to press we have received the following statement, kindly supplied by Mr. H. R. Hall:

"The excavations of the Egypt Exploration Fund at Abydos have brought to light the inner hall of the Osireion, a splendid building of great blocks of granite, limestone, and red quartzite, closely resembling the 'Temple of the Sphinx' at Gîzah. It has a massive surrounding wall of about twelve feet in thickness, the outer part being constructed of white limestone while the inner face is of red quartzite. The pillars are of granite, with granite architraves. When cleared, this building will be, as is the Temple of the Sphinx at Gîzah, one of the most interesting objects of antiquity in Egypt, and will, like Dêr el-Bahri, always remain a monument of the work of the Fund and of Dr. Naville.

"Later in the season Prof. Whittemore will carry out excavations in the neighbourhood of Abydos and at Sohag.

"Mr. Blackman has worked for a short season at Meir, clearing and copying the tombs of Ukhuḥetep I and II for the Archaeological Survey. A full report of his work will appear in the July number of the *Journal of Egyptian Archaeology*, with photographs.

"Mr. J. de M. Johnson has had a long season at Shêkh Abâda (Antinoë), for the Greco-Roman branch of the Fund, and has trenched the mounds in every direction for papyri, with some success. Many of the objects of every-day life in the Roman city, textiles, leatherwork, pottery, etc., which will be exhibited in London in July before being distributed to museums, are of considerable interest."

Our readers should be as well informed as the Continental public are about English work; we therefore quote the following details given by Dr. Naville in the *Journal de Genève*, 26 February:

Continuing work from the sculptured part of the Osireion formerly discovered and excavated by the Egyptian Research Account, two halls have been found; one 100 by 65 feet wide; the other opening from it, 65 feet wide by 16 feet. The first hall is roofless and is deeply encumbered with stone: in neither hall has the floor yet been cleared. The first hall has walls 13 feet thick, of limestone outside and red quartzite inside. It was divided by two rows of granite pillars, forming three colonnades like the granite temple at Gizeh. The architraves are 16 feet long, and the roof is of red granite 6 feet thick. The roof is only at the sides, and not over the middle colonnade. It was quarried by Rameses II for his temples, and later for Roman millstones. In the walls are at least sixteen niches for statues. The only trace of inscription is some funeral text of Merenptah on the end wall.

In the second hall, on one wall, are texts of the last scene of the Book of Duat, engraved by Sety I. The whole ends a few feet from the temple of Sety I. Prof. Naville refers the original building to the Old Kingdom, but the quartzite masonry indicates the Middle Kingdom.

ANCIENT EGYPT.

BIRDS IN ANCIENT EGYPTIAN ART.

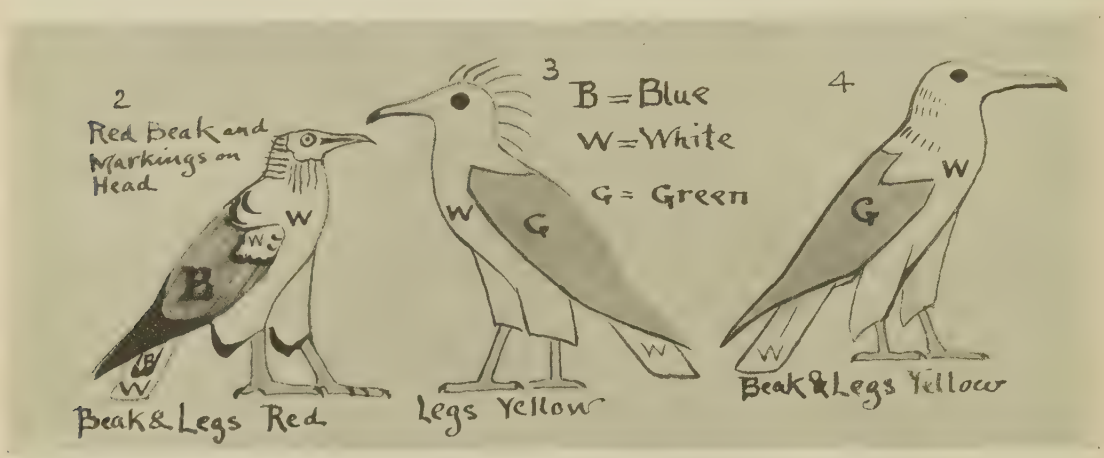
(*Frontispiece.*)

SOME years ago, I wrote on the subject of colour as used by the ancient Egyptians in the representation of living objects; and though now one has seen so many hundred more different examples than then had been available, I have still, with some regret, to restate my original view, that we know little as to the rule that dictated to the old artists what colour they should use.

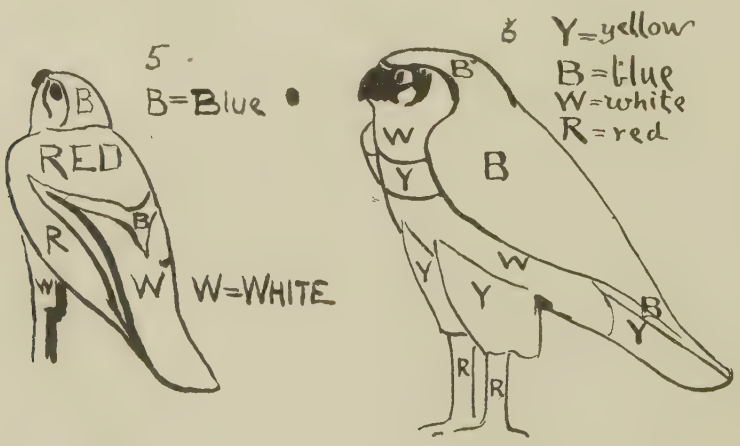
Light will doubtless be thrown on this by Mr. Howard Carter's book when it is published. Those who have been privileged to see parts of it know his extraordinary powers of observation, exact illustration, and artistic handling, which make them await the work with the utmost interest. What one, however, almost fears must necessarily be impossible to elucidate is, why the same bird—or what on every method of judgment one would say is the same bird—should be in one case coloured red, and in another blue, while the real colour in nature is neither red nor blue. We know, or seem to know, that certain classes of objects were always by some convention to be coloured one regulation colour, for instance, wood (or wooden objects) are nearly always red, whilst water is blue; but in the matter of birds there seems no fixed rule of this sort. All are aware that, over the vast period of time which one is considering, artists and schools were succeeding one another constantly, and that certain periods were artistically infinitely preferable to others. That, however, will not help us over this particular difficulty, because on the same wall, and of the same period, I have found such different renderings of the same bird that, judging by the colour, you would have to place them as scientifically different species. I still remain in this view, which was arrived at long before I had read the following:—"In studying Egyptian wall-painting the "question immediately arises how far the faithfulness and realism of the artists is to "be depended upon. Their bad work was often very bad; but their best work "also was done principally with a view to decorative effect, and thus we see, for "example, that the fins of the fishes are often misplaced, the colours of a bird may "be taken from one species, and the form from another, while everything is "considerably conventionalised" (*Beni Hasan*, Part III).

From my own notes I have selected some cases to make this clear. The first is this figure of the Egyptian vulture used alphabetically as A. In the frontispiece, Fig. 1, you have for comparison a sketch of the actual bird, as rendered by a modern draughtsman from the living example. In Figs. 2, 3, 4, are shewn three copies of this same sign which were painted in colour, each differing considerably the one from the other, but all three being

selected because of the careful work shewn in them. No. 2, from the tomb of Ameny, Beni Hasan, is coloured blue, red, and white, as indicated by lettering. The markings on head and neck, which presumably represent the ruff of long thin feathers which adorn the neck, are painted in reddish colour, as are the beak and the face, which is bare skin. In nature, the ruff of feathers is pure white with no suggestion of red, and the bare skin of face, with the base of the beak, is bright yellow. The white parts in all three figures are correct as in nature—but the

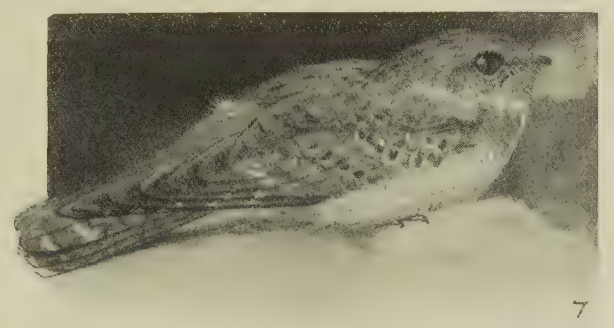


wings in this Fig. 2 are blue—with black primaries, and there is a curious white square on the point of the wing, which one is most uncertain about. In nature the wing is, as you see by Fig. 1, white, with dark grey secondaries, which at a distance look absolutely black, and with black primaries. In No. 3, which is from the inside of a painted wood coffin of the IIIrd to IVth dynasties, the bird has what looks like a crest of feathers on top and back of head and is shewn with quite bright green wings, and its legs are yellow, as they are in Fig. 4, from a XIIth

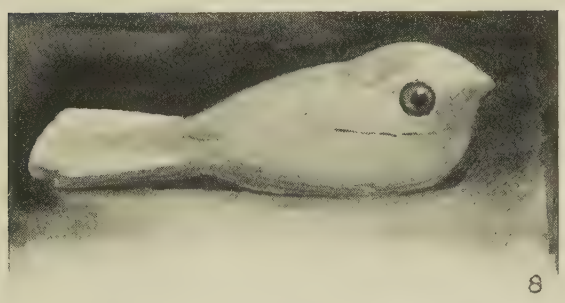


dynasty tomb. In nature the legs are a sort of chalky pink-red. In Figs. 5, 6, are shewn two wooden hawks; Fig. 5 is in the Petrie Collection, Fig. 6 is my own; both are practically as far as shape and size go identical; but the colouring, as I have shewn by my lettered diagrammatic drawing, is about as markedly different as well could be imagined.

Incidentally most will agree that the lot of the poor bird expert, who is called in to name certain birds, is not quite a happy one, and the writer has had more than one experience, where the questioner has looked upon our cautious answer as a mere subterfuge of ignorance, and seemed doubtful if one were not posing as having knowledge while being really a regular fraud. Still one goes on, and does not regret the long hours given to this side of Egypt's story; every season something new crops up, and only this year Prof. Petrie asked me to look at a very perfect little work of art.



7. Night-Jar. From Nature.



8. Ivory Carving of Night-Jar. Garnet Eye. Prehistoric.

This little ivory is just about 2 inches long, and is in no way remarkable for any detail of markings of wings or feathers. The first point seen is that the eyes are of a different colour and substance to the rest. They are small beads of garnet, with the darker iris plainly shewn, and the same dark colour surrounding the eye gives the appearance of the heavy eyelids peculiar to the bird.

Now it may be asked, after looking at our two illustrations, Fig. 8 being of the little ivory itself, and Fig. 7 a sketch of my own of the bird from nature,—whatever is it you see in this ivory to so admire? My answer is, first, that of all birds I know the nightjar is peculiar in this identical squatting position; and that, when seen, the eye is the most marked thing visible. Indeed, it is a commonplace amongst field naturalists that it is extraordinarily difficult to discern this bird at all, as it lies or squats on the ground, possibly not a yard away from you, until you catch sight of the great luminous eye. This is because it crouches rigidly motionless, and because of the delicate markings—blotches and pencillings of brown and grey and buff, which harmonize and blend with the surrounding soil and stones, so that it

looks merely like a rounded bit of the adjoining earth. The old time artist knew this very certainly, and made a point of it. Then the next peculiarity is that the broad head ever lies close in on the shoulders, and the body and tail make one continuous line, with the feet hidden underneath, and in broad simple fashion all these characteristics are given, so that though in white ivory which cannot shew the delicacy of pattern of its brown and buff plumage, it is possible to at once identify it as being meant for the Egyptian nightjar (*Caprimulgus aegyptius*). This form is an inch smaller than the European species, which is a comparatively rare visitor to Egypt. And the Egyptian bird is again a rarer visitor still to our own country; only one case is known authentically, and that was in 1883, when, with regret it has to be stated, it was promptly shot; this was in the heart of England, Nottinghamshire.

Both species are marked with very similar delicate grey buff and brown blotches and pencillings,—but our English one has the markings rather more positively, and distinctly darker blotches. Its curious note, which is perhaps the most singular of all our native birds, once heard is never forgotten. It harmonizes completely with the wild moorlands and waste places that it loves—and loves so consistently that it returns annually, as a summer visitor, to the exact spot where it nested the previous year, and where probably itself was born from the eggs laid on the bare ground under some mass of bracken.

Two outstanding points, which are to the artist points of great merit, are, first, the extraordinary individuality of all Egyptian art from any other art; and, second, that quite apart from the actual scale of the work of art (as in this little gem of a sculptured nightjar), it is ever—in studio parlance—"big." If you have any doubt about the first, try and paint or sculpture any bird or inanimate object to make it look like the work of some good Egyptian period. Your first essay will at once reveal to an expert that it is done by Western hands; there will be some tell-tale peculiarities, of which you yourself are quite unconscious, that will certainly, as we say, "give the show away." Even if you simply attempt to copy direct from some Egyptian work, you will be astounded at the difficulty of getting just the identical type of line and contour that is everlastingly to be found in everything they did. Then the other point is equally certain, that theirs was the godlike gift of making everything big. Take those little wee statuette figures, only an inch or inch and half high, they are still great,—big with the same dignity, reserve, and masterly seizing in their own way the simple necessary contours and broad forms and masses. Needless to add, here reference is only being made to the great and good periods. Their bad work, as already has been pointed out, is very bad; and it is curious that bad work is points easier to copy than good. Some of the work of the worst periods might really just be the work of a badly-taught board school child of to-day, the resemblance, indeed, often is really striking. But for the rest—and it is a very big remainder—all their work ever has this individuality and this bigness, just as this little bit of ivory is a complete work of art, and the cleverest representation of a nightjar that I have ever seen.

To go back to our frontispiece, in old books of travel this bird is often referred to as Pharaoh's Chicken; travellers tell how it was to be seen in every village walking about amongst the domestic poultry, and describe how it would eat and clean up the most unsavoury filth and nastiness, that even a poor skinny Egyptian fowl would scorn. The name has some interest, because nowadays all that has changed, and in all the years I can remember Egypt I have only once seen it. This was at some small settlement of huts—not worthy even of the name of a

village—midway on the old road between Keneh and Koseir. From a group of what at a distance looked like all geese, two birds flew up and circled lazily round, and I saw they were Egyptian vultures. The geese did not seem disturbed or notice them, and I remember the whole incident because of the unsuitability of the place, a desert, for a water-loving bird like the goose. Still Egypt is full of these surprises, as all travellers must have been startled to hear for the first time the "goble, goble, goble," of the ubiquitous turkey-cock from the roof of some high building in town or city.

It would be most interesting to bird lovers if we could reach some smallest direct knowledge of what reason dictated their choice of birds as hieroglyphs, which seem to us to have no possible connection with the ideas they are supposed to embody. Why should a vulture, which is the most repulsive looking and most foul feeding bird, and far from the best and highest type of good parent, be used as a symbol of motherhood, with all its delicate and sacred associations? Again, why should an ibis be chosen to head the embodiment of the great master mind and deity that presided over the arts, letters and literature? Above all why a duck or a goose should be chosen as the sacred and royal symbol of an earthly monarch's sonship with the greatest of their gods? In not one of these three leading cases can an ornithologist see the slightest suitability or propriety whatever. Although one has to record that, it may well be that nevertheless there may be some sound reason, which in due course will be gradually discovered, and that is the hope and inspiration of every scientific worker in this particular furrow of the great fascinating field of Egyptology.

CHARLES WHYMPER.

[Unusual as the golden-headed vulture may be in most places, it is still frequent in others, as at Dendereh, where I have counted thirteen all within a stone's throw of our courtyard; they frequented that as they always found there a peaceful supply of scraps.—W. M. F. P.]

EXCAVATIONS AT SAQQARA.

THE excavations of the past season at Saqqara were conducted in a quarter of the necropolis well known to every visitor, close to the tombs of Mereruka and Kaqemni and to the pyramid of Teta. When these tombs were formerly cleared the use of light railways had not begun, and all the sand and stone, carried in baskets on boys' heads, had been banked up in close proximity to the mastabas. Underneath this equally good inscribed tombs might possibly lie concealed. Accordingly, in the last two seasons, in accordance with the wish of Sir Gaston Maspero, a beginning has been made with the task of clearing a considerable space, including the area between and surrounding the accessible tombs. No great mastaba has yet been found; a large bulk of top stuff had first to be moved, then three well defined layers of interments had to be worked through before the Old Kingdom tombs were reached, and in the limited area as yet cleared to ground level only one tomb of the earliest period has been found in good condition.

The uppermost layer was of Roman date, of the 3rd century. The superstructures were oblong benches of brick, lying north and south, higher at one end than the other, covered with plaster, and sometimes decorated with simple patterns in red and black paint. In the raised end was a niche, in the back of which there remained, in one case, a human head roughly painted in red. The graves were shallow, about 30 inches deep; in them lay bodies fully extended, loosely wrapped and bandaged. There were hardly any small objects. A coin of Marcus Aurelius had been placed in one child's mouth; this was found in the previous year (1912–13). Two interesting pieces of faience—a sphinx and a vase with decoration in relief—and a marble head of a boy, a good piece of portraiture, were the most important single objects.

In the bodies themselves the most obvious point of interest was the curiously bad condition of the teeth; not only were these generally worn down very flat, but decayed molars, and jaws almost devoid of teeth, were very common. The contrast between these people and the present population of the villages is, in this matter, most striking; but of course our interments may have been those of a poor class of townspeople from Memphis, and not countryfolk at all.

In the tombs, and still more between them, at this level, a considerable collection of pots was made, and these were carefully drawn and worked up by Mr. and Mrs. Hayter, who, this year as last rendered us most valuable volunteer assistance in every way.

The second layer of bodies was at about three feet depth below the Romans. They were oriented at right angles to those above them, the heads being to the west. Here again a poor class of the population was alone represented. Some hundreds had to be examined, so closely did they lie together, and dated objects were non-existent.

The coffins were of anthropoid form, but very roughly made of planks daubed over with mud: the faces were sometimes carved in wood and pegged on, but more often moulded in clay roughly painted. The class is but too well known to diggers, and is most difficult to date.

The third layer contained fewer bodies and was less uniform in type. Most were in oblong boxes, of greater height than width. One group with gable lids, and bands of red and yellow (a red central stripe with yellow edges), was well defined. All these were probably of the early New Empire.

One of the square-ended plain coffins contained an unexpected prize. There were two bodies in the coffin, both wrapped in plain cloth, and without so much as a bead or a pot to reward our search. The cloth was in fairly good condition, however, and as I threw one bundle of it aside it broke and disclosed, to my surprise, the head of a small wooden statuette. It is about $2\frac{1}{2}$ inches high and represents a very young boy, hardly more than a baby. Two of the ordinary flower-shaped carnelian beads were suspended by gold wire to the ears: they are oddly out of scale, the child's earring being as long as his forearm; but the sculpture is very delicate and subtle, and such a charming study of a child is certainly of great rarity. Even in the Louvre the work would attract attention; in our scantier series at Cairo it is very valuable.

Another piece of fine sculpture was a wooden spoon, with an openwork handle representing a girl standing in a boat and gathering papyrus; this was only in fair condition. Wooden objects at Saqqara are rarely, if ever, in the perfect state so usual at Thebes.

At a still lower level was a set of boats from a Middle Kingdom tomb, and soon afterwards an untouched shaft of the same period was discovered. It had been sunk close by a large mastaba of the Old Kingdom, the masonry of which formed one of its sides. The massive wooden sarcophagi were in the shaft itself: the model boats, granaries and workshops in recesses at the base. There were no objects of intrinsic value, but the staffs and bows, the cartonnage masks and the sandals inside the coffins, and the models and statuettes outside, formed a rich group, and were in good condition. The types are well enough known, wooden boats propelled by oars, papyrus boats which were paddled, groups of brewers, and granaries. Less common is the carpenter's shop with a large set of model tools, and the model loom is perhaps unique. The canopic vases had wooden heads, all human, three representing men, one a woman.

The names on the two coffins were Anpu-emhat and Nekh-hetuser. Each of the groups when exposed in a museum necessarily takes a great deal of space, and it is very possible that we shall not be able to keep both of them at Cairo permanently.

This completes the tale of the interments. Of important superstructures we discovered two. At the lowest level was the mastaba of yet another Ptahshepses: it lies close to Kaqemni, to the north. The stela is a fine block of stone, with a rather roughly incised inscription; perhaps it had been usurped. The chamber is of crude brick, covered with mud plaster and painted. The scenes are commonplace, only the slaughter of oxen, but the colours are rather well preserved, and the dark slaty background is striking. It is regrettable that the tomb cannot be left long open; but there is no doubt that the damp air in winter would soon disintegrate the plaster unless it were protected by sand.

The second tomb stood above this; it must have been an extensive structure of the late XVIIIth or XIXth dynasty, and commemorated a certain Aăpudu.

The walls were of brick, faced with stone, but stood only a yard high when we found them, and had been stripped of all but half a dozen blocks. These, however, were of merit. There is a stela with a long text, a hymn to Ra ; and another stela, brightly coloured, with the figures of the whole family depicted on it. Two other blocks, which fit together, show a funerary scene—boats upon a lake, and shrines (?) around it. More interesting artistically is a scene of led horses, drawn with great vigour and spirit.

There must once have been a great deal of this fine New Kingdom work at Saqqara, but it lay too accessibly, and the Copts used it as a quarry, building the whole monastery of St. Jeremias from it.

J. E. Quibell.

PART OF COPTIC SERMON.

[I have asked Sir Herbert Thompson to allow the publication of this, in hope that the author of it may be identified.—W. M. F. P.]

THE following text is written on a strip of vellum 8¼ inches high by 4 inches at the widest point, in a single column on obverse and reverse. The fragment is complete at top and bottom, but has been torn away on the left-hand edge of the obverse from what was originally probably a page with two columns of writing. One or more letters have been lost from the beginning of each line of the obverse, and from the end of each line of the reverse. I have filled up most of the gaps, but some of the restorations are conjectural.

The text is apparently the close of a sermon, but I have not succeeded in tracing its origin:—

OBV.

. ⲙⲙ̄ⲣ̄]ⲣⲉ ⲛⲛ̄ⲥⲁⲛⲓⲥ ⲃⲱⲗ
ⲉⲙⲡⲁⲧ]ⲛⲧⲱⲟⲩ̄ⲧ ⲉⲡⲗⲓⲙⲏⲛ
ⲉⲡⲟ]ⲩⲉⲛ ⲟⲧⲛ ϩⲛⲏ
ⲙⲛ]ⲧⲉⲯⲱⲧ ⲉⲑⲟⲟⲩ
. .]ⲛ̄ⲧⲙ̄ⲛ̄ⲧⲉⲯⲱⲧ
ⲛⲁ]ⲇⲓⲕⲟⲛ ⲉⲁⲛϯⲑⲉ
ⲙⲡⲁ]ⲓⲁⲃⲟⲗⲟⲥ ⲉⲥⲱⲃⲉ
ⲙⲙⲟ]ⲛ ⲁⲛⲟⲛ ⲁⲉ ⲛ̄ⲣⲓⲙⲉ
ⲛⲧ]ⲛⲉⲓⲛⲉ ⲉϫⲱⲛ
ⲉⲧ]ⲗⲁⲁⲛ ⲛ̄ϩⲛⲇⲓⲱⲣⲓⲁ
ⲙⲡ]ⲟⲟⲩ ϫⲉⲕⲁⲥ ⲛ̄ⲛⲉⲡⲁⲓ
ⲯⲱ]ⲡⲉ ⲙ̄ⲙⲟⲛ ⲙⲁⲣⲉⲛⲟⲣ
ⲙⲁ] ⲛⲥⲁⲥⲁ ⲛⲓⲙ ⲁⲩⲱ ⲟⲛ
ⲙⲁ]ⲣⲉⲛⲕⲱ ⲛ̄ⲥⲱⲛ ⲛⲙ
ⲡ]ⲗⲑⲟⲥ ⲛⲓⲙ ⲛⲧⲛ̄ⲛⲟⲩϫⲉ
ⲉ]ⲃⲟⲗ ⲙ̄ⲙⲟⲛ ⲛⲧⲉⲡⲉⲓⲑⲩⲙⲓⲁ
ⲛ]ⲧⲙⲛⲧⲣⲉⲙⲙⲁⲟ ⲙ̄ⲡⲉⲓ
ⲙⲁ ϫⲉⲕⲁⲥ ⲥⲉ ⲉⲛⲉⲙⲁⲧⲉ
ⲛ]ⲛⲁⲕⲁⲑⲟⲛ ⲉⲧⲛⲁⲯⲱ
ⲡ]ⲉ ϩⲓⲧⲛ̄ⲧⲉϫⲁⲣⲓⲥ ⲙ̄ⲛ̄
ⲧ]ⲙⲛⲧⲙⲁⲓⲣⲱⲙⲉ ⲙ̄ⲡⲉⲛ
ϫ]ⲟⲉⲓⲥ ⲓⲥ ⲡⲉϫⲥ ⲡⲉⲛⲥⲱⲧⲏⲣ
ⲡⲁ]ⲓ ⲉⲃ[ⲟ]ⲗ ϩⲓⲧⲟⲟⲧ[ⲕ] ⲉⲣⲉⲉ
ⲟⲟ]ⲩ ⲙ[ⲙ]ⲛⲣⲉⲡⲉⲓ ⲛⲁϥ ⲙ̄ⲙ
. . . ⲙ̄ⲙⲧⲉⲡⲣⲟⲥⲕⲩⲛⲏⲥⲓⲥ
ⲙⲛ]ⲧⲉⲩⲭⲁⲣⲓⲥⲧⲓⲁ

REV.

ⲙⲛⲛⲉⲫⲉⲓⲱⲧⲛ̄[ⲁⲣⲁ
ⲑⲟⲥ ⲙ̄ⲛ̄ⲛⲉⲛⲁ ⲉ[ⲧⲟⲩ
ⲗⲁⲃ ⲧⲉⲧⲣⲓⲁⲥ [ⲉⲧϩⲛ
ⲟⲩⲙⲛ̄ⲧⲟⲩⲁⲁ[ⲃ ⲛⲧⲙ
ⲛ̄ⲧⲧⲟⲩⲁ ⲉⲥ[ϩⲛ
ⲟⲩⲧⲣⲓⲁⲥ ⲛⲁⲧ[ⲱ
ϫⲛ ⲁⲧⲯⲓⲃⲉ [ⲉⲥⲣ
ϩⲙ̄ⲙⲉ ⲙ̄ⲡⲧⲏ[ⲣⲫ ⲛ
ⲛⲁⲧⲡⲉ ⲙⲉⲛⲛ[ⲁ
ⲡⲕⲁϩ ⲧⲉⲛⲟⲩ ⲁ[ⲩⲱ
ⲛⲟⲩⲟⲉⲓⲯ ⲛⲓⲙ [ⲯⲁⲛ
ⲉⲛⲉϩ ⲉⲛⲉⲛⲉϩ
ϩⲁⲙⲓⲏⲛ

Translation :—

". . . [lest the ties?] of the planks [be?] loosened [before?] we have reached the harbour, the hull (?)[1] [being] laden with bad merchandise (?) . . . unjust merchandise, we having given occasion to the devil to mock us. But we weep[2] and we undertake to yield us up to punishments to-day (?) in order that this may not happen to us. Let us hasten (?)[3] in every direction and also leave behind us all passions, and let us cast away from us desire of riches in this place,[4] so that also we may obtain the good things that shall come to us through the grace and loving kindness of our Lord Jesus Christ our Saviour, through whom all honour is due to Him and . . . and worship and thanks, together with His Good Father and the Holy Spirit,[5] the Trinity in a holiness of Unity[6] which is [in?] an unfailing and unchanging Trinity, which ruleth the universe of things in heaven and things on earth now and at all times for ever and ever. Amen."

[1] l. ⲟⲩⲥⲉⲛⲧ (?)

[2] Probably the scribe's error for ⲙⲁⲣⲉⲛⲣⲓⲙⲉ, "let us weep and let us undertake," etc.

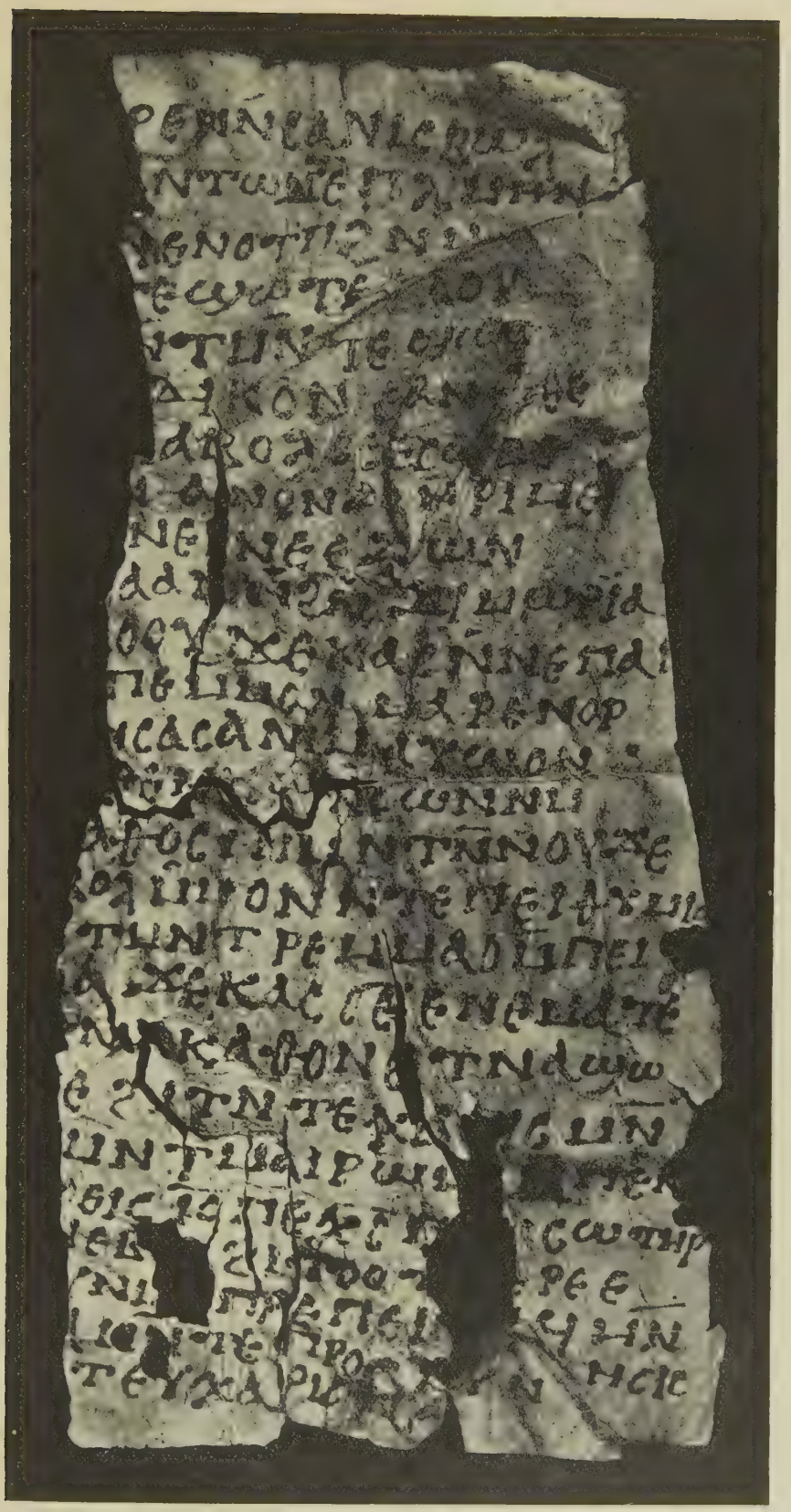
[3] l. ⲟⲣⲙⲁ (?); one would rather expect ϩⲟⲣⲙⲁ.

[4] *Or*, of this place, *i.e.*, this world.

[5] l. ⲡⲉⲡⲛⲁ.

[6] l. ⲙⲛⲧⲟⲩⲁ.

HERBERT THOMPSON.



Page of a Coptic Sermon.

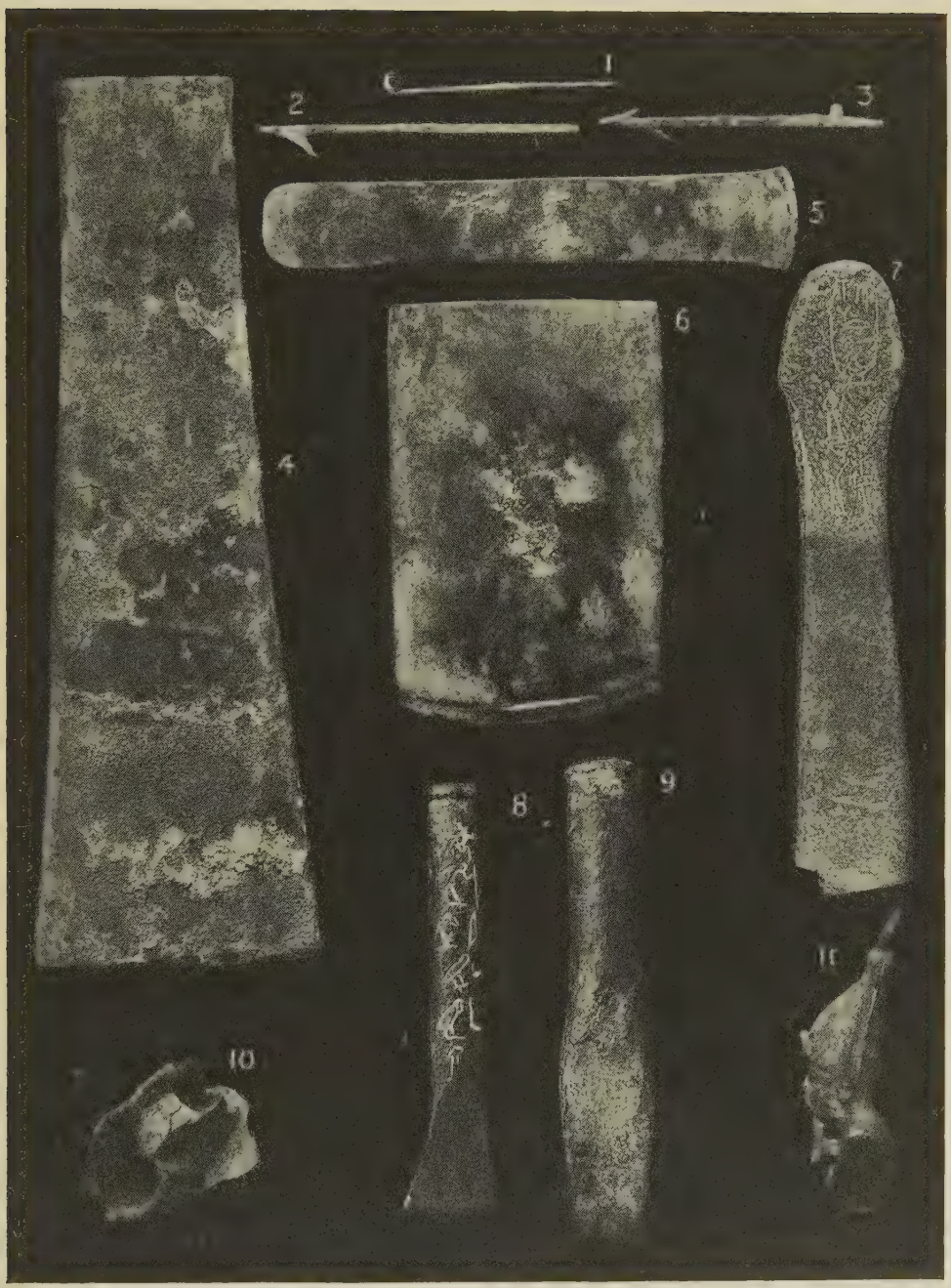
THE METALS IN EGYPT.

It might be supposed that the introduction and use of the various metals in Egypt had been sufficiently dealt with in original works and compilations; but frequent mis-statements that are met with show that a summary of the matter is needed. Dating will be referred here entirely to Egyptian dynasties, to avoid the confusion that has arisen from arbitrary shortening of periods.

Copper is the earliest metal of which we know anything in Egypt. It occurs in the oldest prehistoric burials of Sequence Date 30, while gold, silver, and lead have not been yet found before their appearance in the beginning of the second prehistoric age, S.D. 42. The nearest important source of copper was in Sinai, where 100,000 tons of copper slag, in the Wady Nasb alone, shows what a large industry was carried on there. Later, the more distant source of the North Syrian mines yielded a supply to Egypt, as seen in the tribute from Alashiya or Asi; probably still later in origin was the overseas supply from Cyprus, which Dussaud does not place till after the Ist dynasty. Unfortunately there are very few analyses of metal and of ores in different neighbouring countries for comparison with those in Egypt. At least we may note that a piece of prehistoric copper contained 1·55 per cent. zinc and only ·38 of tin (Naqadeh), while no zinc occurs in Cypriote copper tools. Copper was certainly very scarce at first, as only small pins are found, with the top turned over in a roll, probably to secure it by a string (Fig. 1). Such a pin was found with a body buried in a goat skin, without any linen, of the earliest type of burial. The harpoon (Figs. 2, 3) and small chisel of copper both came into use in the first prehistoric age. The metal became commoner continuously during the second prehistoric age, as shown by the increasing size of the tools; the adzes and, lastly, axes came in, reaching the full weight of later times at the close of the prehistoric (Figs. 4, 5, 6).

In drawing conclusions we must not presume that we have all the means of judging; our material is extremely imperfect, as we repeatedly find that only a single example of some form is known to us. Only three Egyptian prehistoric copper daggers are known (Naqadeh and El Amrah); only one prehistoric copper spear-head has been found (Tarkhan). The copper helmets of early Babylonia (Enneatum) and of Crete (Haghia Triada) are only known from sculptures, and, without these, we should never have suspected that such forms were at all early. The archaeological record is as imperfect as the geological, and whole classes of products have dropped out of knowledge. Hence it is only when we have a large amount of remains in our hands of one age that we can suppose that we have any fair idea about it.

The first dynasty marks the greatest size of copper tools. The largest knife and largest adze (12½ inches) are of that age (Fig. 4, Tarkhan); even the great adze (12 inches), which a boat builder is shown using at Meydum (*Medum* xi), is scarcely as large. Exactly the same form has been found in Cyprus (Myres, *Catalogue*, 501), but smaller (8 inches, see Richter-Cartailhac plate). As the form hardly comes in the Egyptian series of adzes, and is not likely to have been exported from Egypt to a copper region, it seems that Cypriote copper had reached Egypt by the Ist dynasty. In this age a large use was made of copper wire, which was produced by cutting strips of thin sheet copper and hammering them round.

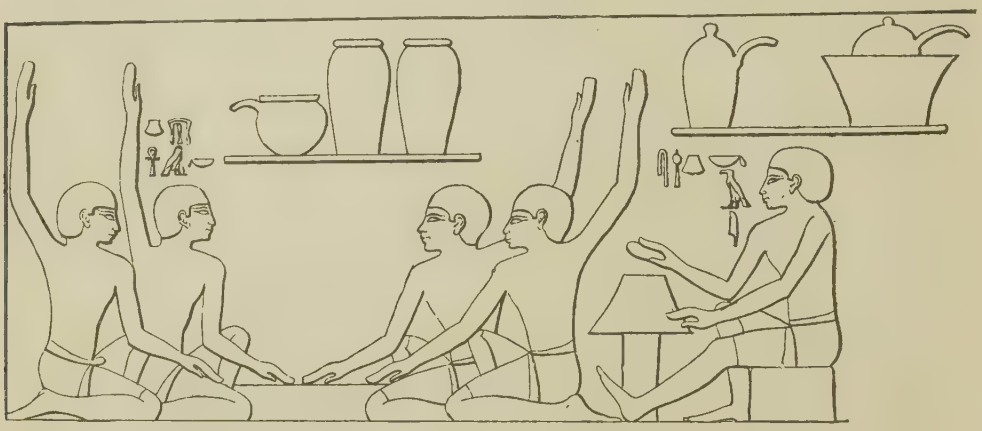


3 : 7

Copper and Bronze Work.

1. Pin, Early Prehistoric. 2, 3. Harpoons, Prehistoric.
4. Adze, Cypriote, Ist Dynasty. 5. Adze of "Sa Neit," Ist Dynasty.
6. Axe of "Du-qa," Ist Dynasty (*Royal Tombs*, I, LXIII, W. 46).
7. Adze of "Snefru-mer-hezt, Shemsu," IVth Dynasty.
8. Chisel of "Senior Miner, Ambu," XIIth Dynasty?
9. Chisel, XVIIIth Dynasty? All above Copper.
10. Hollow Cast Bronze Ring, side broken away.
11. Thin Cast Figure, Bronze, $\frac{1}{50}$-inch thick.

Such was applied to fasten together boxes, to unite horn bracelets, and even to secure large glazed tiles to a wall. Four samples of copper from the Royal Tombs each contained a little bismuth, about 1 per cent. in a chisel; a very small amount is enough to harden copper considerably (Dr. Gladstone). The adze, Fig. 6, is dated to the close of the IIIrd dynasty by the name Snefru-mer-hezt.



12. Four Men Beating Copper. Man Finishing Copper Bowl. Finished Copper Vases in Background.

In the Old Kingdom the casting and beating of copper was fully developed; scenes are shown of the beating out of bowls (Fig. 12), and the great statue of Pepy and his son (see portrait at end) is of beaten plates. For the analysis, showing it to be almost pure copper, see *Dendereh*, 61.

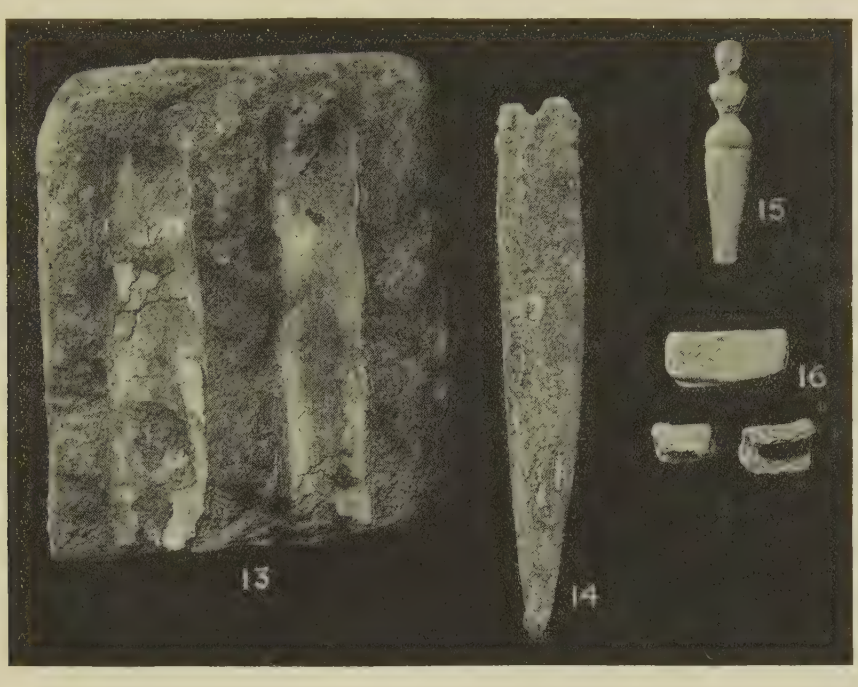
Of the Middle Kingdom are many fine tools; four analyses of these from Kahun show them to be nearly pure copper. Tin is only ½ per cent., excepting 2 per cent. in a chisel; arsenic is 4 per cent. in an axe, but very little elsewhere; antimony and iron are only slight impurities (*Illahun*, 12); also in a piece of sheet copper, of the same age, there was only 1 per cent. of tin (*Dendereh*, 61). It is, therefore, puzzling to find in analyses of Berthelot a large amount of tin in four Old and Middle Kingdom specimens. Either there were errors in settling the age of the samples, or, perhaps, as they were small objects, they were cast in shape, and the more fusible alloy was used rather than the plain copper which was beaten for the tools.

In the XVIIIth dynasty, bronze came into common use, as will be noted farther on; but copper continued to be wrought for large beaten vessels in all periods, down to the present time.

Examples of the refinement of casting are shown in Fig. 10, a hollow ring, attached to some furniture, and now broken away round the outside; also in Fig. 11, part of a statuette shewing the metal only a fiftieth of an inch thick over the ash core. The heavy metal chisels were cast in open moulds of pottery, Fig. 13; in Fig. 14 is a chisel from a similar mould.

Gold is generally credited with being the earliest metal used, and though it has not yet been found in the first prehistoric age, that may be due to the graves having been completely ransacked for it. It is well known that the eastern desert and Nubia were gold-producing countries down to Roman times; and whether the metal was named *nub* from the country, or the country from the metal, is an open question. Large quantities of gold rings were brought down as tribute in the XVIIIth dynasty. Other sources were, however, used in the Old Kingdom,

as is shown by the mixture of silver, forming electrum. Such native alloy is found in the Asia Minor stream gold (Pactolus, etc.); and as emery and obsidian came from the Aegean in prehistoric times, it is to be expected that electrum would also



1 : 2

13. Pottery Mould for Casting Chisels.
14. Bronze Chisel, from such Mould, XVIIIth Dynasty.
15. Lead Figure, Prehistoric.
16. Lead Net Sinkers, XVIIIth Dynasty.

arrive. The alloy with silver was recognised as different from *nub*, gold, having the name *usm*, or *zom*, which is given in the IIIrd dynasty (*Medum* xiii), and as early as Aha in the Ist dynasty (*Royal Tombs* II, x, 2). The examples are:—

		Gold.	Silver.	
Ist dynasty.	Zet	80	13	*Royal Tombs* II, 40.
„	Semerkhet ...	84	13	„ „
„	Qa	84	13	„ „
IInd dynasty.	Khasekhemui	78	17	Dr. Gladstone.
	VIth dynasty	78	18	*Dendereh*, 61.
	„	82	16	„
	„	92	4	(Berthelot.)

Much as gold has been sought for in the cemeteries, some is still found in almost every place that is excavated. The principal examples, put in historical order from our own work, are: Naqadeh, prehistoric beads; Royal Tombs, Aha bar, Zer jewellery, Khasekhemui sceptre and vases; Koptos, bangle; Riqqeh, pectoral; Lahun, great group of royal jewellery; Nubt, gold plated scarabs; Qurneh, mummy with jewellery; Gurob, gold pin; Ehnasya, gold statuette, Pef-du-bast; Defenneh, Ra statuette, handle of tray, and much fragmentary; Memphis, Hathor head, granulated earrings; and Naukratis, Roman jewellery. Of course, it is not found in excavations where the workmen are not properly rewarded.

Gold was largely used for gilding, covering entire tops of obelisks and whole doors. The sheet gold weighs about one grain to a square inch, which is about fifty times as thick as modern gold leaf.

SILVER is found coming into use at the beginning of the second prehistoric civilisation, with other Asiatic products. It was used for a cap of a jar, a spoon, and other small objects. Later, some were placed in the tomb of Semerkhet, of which traces of chloride remained after it had been robbed. Some silver jewellery is found in the XIIth dynasty, such as the royal hornet, with inlaid wings, and pieces of pectorals, from Harageh. Of uncertain age were the great feathers of silver from a statue of Min, found at Koptos. At Qurneh bangles of the XVIIIth dynasty were made with a row of small tubes of silver. A great quantity of silver vases are recorded in the papyrus of Rameses III. In later times silver is occasionally found, as at Zagazig and Defenneh, and a large silver chain at Tanis. As a whole, silver is quite as rare as gold in cemeteries and towns, although gold would have been sought for and removed more eagerly by robbers. Though the proportion of gold to silver coming from any one source would be determined mainly by the produce of the land, the totals given to the various gods by Rameses III during his reign must show fairly the relative amounts of the precious metals in use. It is not quite clear how far totals recapitulate; but the totals offered to the various gods amount to 9 cwt. of gold and 30 cwt. of silver; the grand totals named later are 20 cwt. of gold and 33 cwt. of silver. These are in the ratio 3 to 10 and 3 to 5. Roughly, therefore, the weight of silver was two or three times that of the gold; the relative values were probably not far from this. The value of gold to silver is said to have been as low as 2 to 1 in ancient India, and 6 to 1 in mediaeval India. In other lands it has usually been between 10 and 17 to 1, at present it is 33 to 1. As we know that gold was obtained in Nubia, and in the form of electrum from the stream washings of the Aegean, while silver could only be got by mining in North Syria, it is not improbable that the values may have been as 3 to 1 in Egypt.

Silver was probably commoner in Babylonia, as is shewn by the great engraved vase of Entemena, 14 inches high. This is a couple of centuries before Naramsin (4000 B.C. according to Nabonidus, or 2850 B.C. according to Berlin dating), contemporary with the Old Kingdom in Egypt.

LEAD is found almost as early as silver in prehistoric Egypt, being used for sacred figures (Fig. 15). Probably it was looked on as an inferior kind of silver. The sulphide of lead, galena, which is the commonest ore of lead, is found as an eye paint almost as commonly as malachite, in the prehistoric and Ist dynasty times. Both galena and lead are rarely found in the Old and Middle Kingdoms, but lead became very common in the XVIIIth dynasty. It is often mentioned in the tribute from Syria, and doubtless came from the Taurus, associated with silver, which is now found there. It became so common that country fishermen used it regularly for weighting the edges of fishing nets (Fig. 16) as is done at present, and it continued to be thus used in the XXVIth dynasty and Roman times. It is also found used for filling hollow bronze weights, and for adjusting a haematite weight by plugging a hole drilled in it. In the palace of Apries at Memphis, we find, as early as the sixth century B.C., lead was used for a catchment tank to receive the washings of the palace floors.

Lead was very common in Roman times all over the Empire. In Egypt it was used for a great variety of tokens, which are supposed to have been a small currency of local usage, struck to supply the lack of regular small coinage.

Lead was used frequently in later times for alloying with copper; the cheapness of the lead and fusibility for casting were the advantages. The strength, however, was very inferior to that of bronze, and it was only employed for statuettes, nails, etc., where an edge was not used for cutting. Strangely it occurs in Western bronze-age tools; sometimes in small proportion along with tin; but also as much as 30 per cent. in Brittany celts. As celts are also known made of lead only, and therefore certainly funerary copies, so it is probable that these lead alloys are only ceremonial. A great disadvantage of lead alloy with copper is that it separates when heated to the melting point of the lead, the latter draining away and leaving an alloy of 30 per cent. lead; obviously this property is what determines the Brittany alloy of $28\frac{1}{2}$ to $32\frac{1}{2}$ per cent. The alloy of 18 per cent. lead occurs as early in Babylonia as Bursin, contemporary with the Hyksos (Heuzey, *Catalogue*, 314).

TIN and bronze should be considered together, as, owing to tin being found in few regions, its source is the important question. Of the pure metal there are no early dated examples in Europe, some from the late bronze-age lake dwellings being probably the earliest known. In Egypt the first examples of pure tin are in the XVIIIth dynasty; a finger ring of tin was found at Gurob, and a thin cast pilgrim bottle of tin at Abydos (*Abydos* III, xvii, 50). As bronze is sporadically found at a much earlier date, the view is doubtless correct that tin was not reduced separately from the ore, but the mixed ores of copper and tin were used together. The weight of the great ingot of tin from Falmouth Harbour throws a little light on its date. It is 138 lb., which is 100 of the mina widely known in Mediterranean trade, formed of 50 so-called Phoenician shekels. This must not lead to supposing it cast for Phoenician trade, as this standard was usual in Syria, Asia Minor, Macedonia, Spain, and known as the Italic mina from use in Southern Italy. The celebrated octopus weight of Knossos is 40 of these same minae. This connection seems to show that the trade was earlier than the Roman occupation, during which the usual Roman *centum pondium* would be the standard.

BRONZE.—The earliest hardening material for copper was arsenic, doubtless made by reducing an arsenical copper ore, such as Fahlerz, or one of the arseniates of copper. Such was found in the copper from the Ist dynasty tombs, without tin, lead, or zinc (Berthelot); in the XIIth dynasty hatchet with 3·9 per cent. of arsenic (*Illahun*); and in the Cypriote copper with 1·3 per cent. to 4·7 per cent. (Dussaud). Another means of hardening was by bismuth, amounting in some Ist dynasty examples to 1 per cent.; this was also doubtless produced by some copper ore containing bismuth naturally, and discovered to yield a superior metal for cutting purposes.

The earliest piece of true bronze known is the rod found in the foundations of a mastaba of the IIIrd dynasty at Meydum, which contained 9·1 per cent. tin and ·5 per cent. arsenic (second analysis of unaltered core by Dr. Gladstone).

The ages of the Old and Middle Kingdom shew a curious contradiction of evidence. On the one hand tools analysed from Kahun shew almost pure copper, with never over 2 per cent. of tin.

	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet ...	93·26	·52	3·90	·16	·21	98·05
Chisel ...	96·35	2·16	·36	0	0	98·87
Mirror ...	95·0	Some	Some	0	Little	
Knife ...	0	·5	0	0	0	

But analyses by Berthelot	Copper.	Tin.
Of a VIth dynasty fragment give	86·2	5·7
Of XIIth dynasty, ring from mastaba, Dahshur ...	76·7	8·2
hook...	69·2	9·8
bracelet	68·4	16·3
nail of Fuabra	85·0	1·0

Thus if the ages of these samples are well authenticated they would shew bronze to be usual from the VIth dynasty; but the only clearly dated piece, the last one, has scarcely any tin.

The difficulty is not removed by looking elsewhere. The daggers of the second Troy, contemporary with the XIIth dynasty, are of bronze with 8 to 11 per cent. tin. As a whole, Dussaud tabulates Troy, Crete, Cyclades, and Cyprus as using bronze in the XIIth dynasty, while Thessaly and Babylonia only had copper, or copper-lead alloy.

The present conclusion—until more analyses may enlighten us—seems to be that bronze was first brought down the Aegean in common use; and often, but not regularly, penetrated to Egypt during the XIIth dynasty. It did not come overland either from Italy or from the east. This points to a northern source for the tin. When we see how very important bronze work was later on in Hungary, how copper abounds there, and tin in the surrounding Bohemia, Saxony, Zinnwald, and Galicia, and that the bronze age in Hungary is placed as early as "the beginning of the second millennium," or 1900 B.C., when it was certainly not common in Egypt, it seems not improbable that the Hungarian regions were the earliest source of European and Egyptian bronze. There was a well developed work in polished stone earlier in that region, which would provide a basis of culture for the early adoption of metal. Of the other possible sources of tin, Cornwall, Brittany, Portugal, and Spain are too distant, Italy is barred by the lack of bronze in early Thessaly on the road to the Aegean, and Persia would have supplied Babylonia and Egypt long before Europe, whereas they had bronze later than the Aegean. The Austro-Hungarian sources seem therefore to be the most likely for the earliest continuous use of bronze. No doubt it was produced occasionally by chance finds of ore, in the pyramid period and onward, but it was not regularly used in Egypt till the XVIIIth dynasty. Examples of wrought bronze are shown here in the very thin vases, Figs. 17 and 18, and the patterned bowl, Fig. 19. Fig. 20 is of rough hammered copper, probably of very early date.

On reaching the XVIIIth dynasty there is no question that bronze was the standard material in Egypt. The analyses are:

	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet	89·59	6·67	·95	Trace	·54	97·75
„	90·09	7·29	·22	„	—	97·60
Ring, XIXth ...	77·5	9·6				
„ „ ...	75·7	16·2				
Vase, XXth ...	76·8	15·1				
Arrow head, XXth	81·9	12·2				
Statue base, XXIInd	77·9	5·0				

Yet copper was used for some purposes, as in a foundation deposit of Sa-amen, XXIst dynasty. These alloys with 5 to 16 per cent. of tin vary as those of western bronzes, which contain 7 to 14 per cent. of tin.

IRON has had more contradictory statements made about it than any other metal. The recent discovery of the earliest iron, by Mr. Wainwright, gave occasion

to sum up all the known examples, and here we may repeat them with some comment.

The earliest examples are the Gerzeh beads, of S.D. 60–63 (*Labyrinth and Gerzeh*, p. 15). These were made of hammered iron, and so scarce was it that the

1 : 2

HAMMERED BRONZE AND COPPER WORK.

17. VASE WITH LOTUS HANDLE. BRONZE, $\frac{1}{30}$-INCH THICK.
18. VASE "WASHER OF SANDALS OF AMEN, TEHUTI-HETEP." BRONZE, $\frac{1}{50}$-INCH THICK.
19. BOWL WITH HAMMER PATTERN. BRONZE, $\frac{1}{40}$-INCH THICK.
20. COPPER BOWL ROUGHLY HAMMERED. $\frac{1}{40}$-INCH THICK.

17–19. XVIIITH DYNASTY. 20. EARLY DYNASTY.

beads were threaded alternately with gold beads. Next is the well known piece of sheet iron, declared by Perring to have been found between blocks of stone of the pyramid of Khufu at Gizeh. Then Sir Gaston Maspero cursorily mentions in his catalogue of the Bulaq Museum, 1884, that in 1882 he collected many fragments of picks of iron in the black pyramid of Abusir, of the Vth dynasty.[1] In both of these cases there is lacking a certainty that the iron was not left by some later destroyers of the buildings. An absolutely dated case is that of the mass of rust, apparently from a wedge of iron, found stuck together with copper adzes of VIth dynasty type, at the level of floors of that age in the early temple of Abydos.

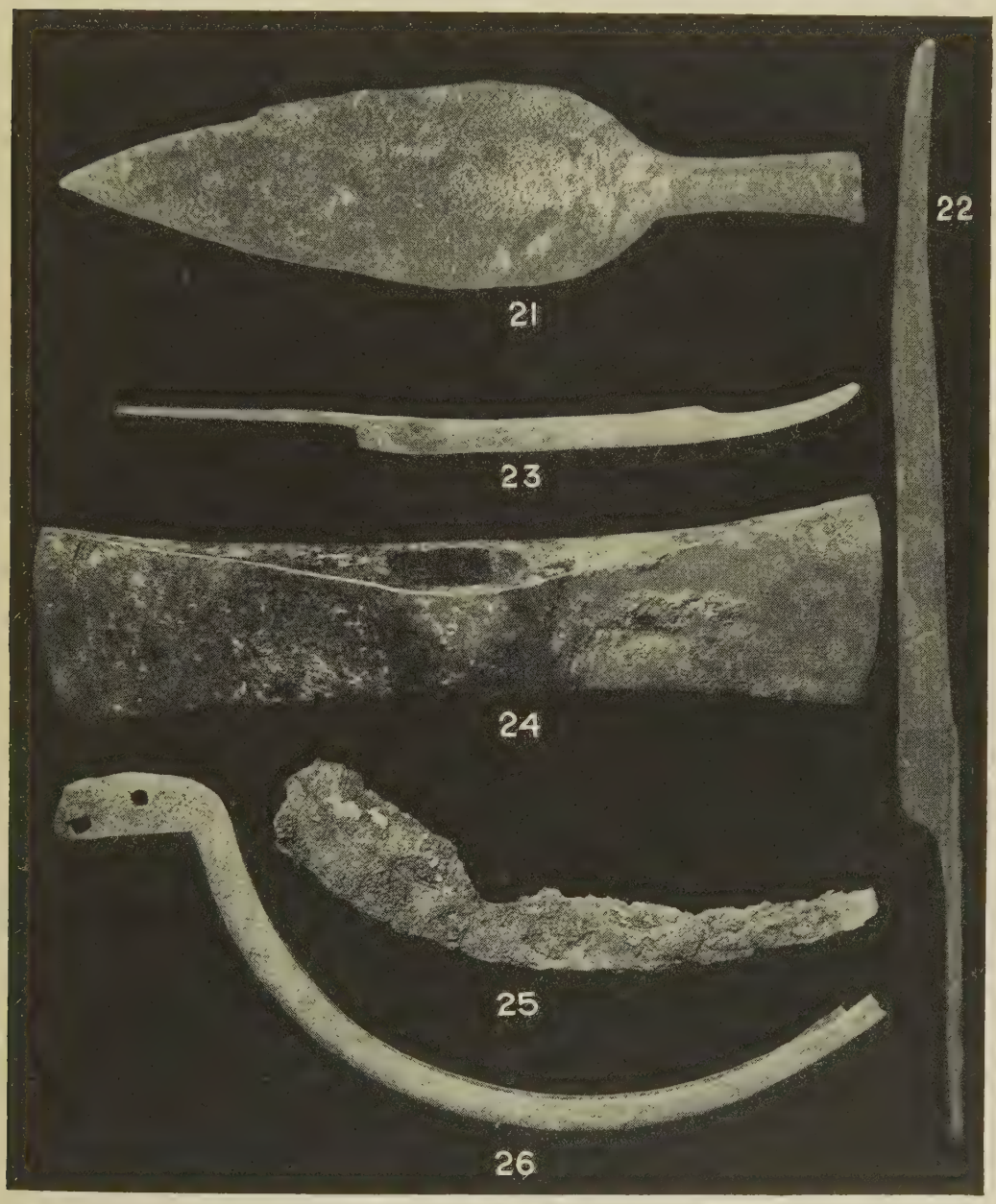
Coming to the XIIIth dynasty, there is the iron spear head (Fig. 21) found in Nubia by MacIver, in the inner chamber of a multiple tomb, which contained altogether fifteen skeletons in position, with gold ornaments and a copper dagger, and therefore was apparently quite unplundered. From the pottery and beads, this tomb (K. 32)—like others near it—was of the Middle Kingdom; it is said to be of the same age as K. 8, which contained the name of Neferhetep, the twenty-first king of the XIIIth dynasty. Contemporary with this is probably the iron stated to be found in the second city of Troy.

Attributed to the XVIIth dynasty, on unknown grounds, is the pyramid of Muhammeriah, near Esneh, where Maspero records finding a point of an iron chisel and a ferrule of a handle, in the mortar which united two blocks of stone (*Bulaq Catalogue*, as before). Attributed to the XVIIIth dynasty is an iron stud from a box, and an iron finger ring, in the Ashmolean Museum. Most unquestionable of all is an iron sickle which was found by Belzoni beneath a sphinx of Horemheb, in the avenue leading from the temple of Mut to Karnak. This is therefore fixed to about 1330 B.C. At Troy an iron knife is said to be about 1500 B.C. This is also the very vague date given for tombs by the Indus containing iron. The sculptures of this age, representing double bellows and beating metal (ROSELLINI, *Mon. Civ.*, plates L, LXIII), have no connection with iron working. The beating is evidently being done in the cold, as a man holds the metal with his hands; and a finished vase, of the usual form in copper, is shown beyond him. The bellows are only an improvement on the older reed blowpipes, used always before this time for smelting work.

We can now review what may be called the sporadic Iron Age. The supposition often put forward that iron might entirely disappear in course of time, is a mere fallacy. When buried in earth iron rusts much slower than if exposed to air, and in many situations it is remarkably preserved. When it has at last been turned to rust, it has become a material which can never disappear. A lump of oxide of iron is practically insoluble when buried, and its strong colour and staining power make it very obvious. To remove all trace of it when buried would be impossible within the human period by any conditions.

The relative number of examples of iron to those of copper and bronze must therefore give us a fair idea of the proportion in which they were used. The iron was always sporadic, in no period or place has anything like a large proportion of iron been found in the period before us. It seems impossible therefore to suppose that it was intelligently produced by an understood process as a regular manufacture. If men could produce at will a pound, they would produce before long a ton, and iron would be freely used where it was applicable. Yet this was not the case at any time before 1200 B.C. It seems therefore that the sources of the sporadic iron must have been either native iron or else casual production by accident. The great quantities of pure haematite in Sinai, and the enormous eruption of ferruginous basalt

there, which probably burnt up forests in its outflow, are ample material for producing either accidental or native iron. Two other points are clear: that the iron was not meteoric is proved by its malleability in the first instance; that there is no reason to question the less indubitable cases is shown by the completely proved and recorded cases of the prehistoric beads, the VIth dynasty lump, and the



9 : 20

IRON TOOLS.

21. SPEAR HEAD, XIITH DYNASTY. (MACIVER, *Buhen*, Pl. 88.)
22. KNIFE WITH CAST BRONZE HANDLE, XXIIIRD DYNASTY?
23. KNIFE, XXIIIRD DYNASTY? RAMESSEUM, with 22.
24. DOUBLE AXE.
25. SICKLE WITH INSERTED STEEL TEETH.
26. SICKLE WITH GROOVE FOR TEETH.

XIIIth dynasty spear head. No shadow of doubt seems possible about these, and so all the other instances may be accepted.

Now we may turn to the developed Iron Age, when the use of the metal was continuous and extensive. It began to be used in Egypt at about 1200 B.C. There is the halbert from the sand bed of the foundations of Ramessu III at Abydos (*Abydos* II, 33); the iron knives found in the brick arches of the Ramesseum, where the objects of living use ceased about 1100 B.C. One knife is very slight in the blade, but has a bronze handle cast upon it (Fig. 22), showing that bronze was the more usual material. Another knife (Fig. 23) is entirely of iron.

The very important instance that has lately come to light is the iron sword with cartouches of Sety II, 1214–1210 B.C., now in the Berlin Museum (*Zeitschrift Aegyptische Sprache*, L, 61, plate V; and *British School Athens*, XVIII, 282). This sword, though much rusted, appears to be of the same type as a more perfect iron one from Egypt, which is of the European type, of Hungary or the Balkans. It occurs also in Cretan tombs of the age just after the Mykenaean and before the geometric style, exactly agreeing with our previous dating of the Mykenaean age. Now one important point is that this type of sword is more commonly found of bronze than of iron, in Crete and Europe; hence 1200 B.C. must be about the beginning of the free use of iron; had it been common before that in Europe such swords would have all been of iron. Also at 1200 B.C. comes the great overthrow of the Libyan invasion, when 9000 bronze swords were taken, showing that iron was not yet usual. This agrees with the previous, and quite independent, assignment of 1200 B.C. as the date of iron beginning to be used in Crete. There is thus a fairly close fixing of the turning point, from archaeological evidence.

The next great stage is the free use of iron in Assyria. In 881 B.C. iron came as tribute from the Chalybes region, south-east of the Black Sea. About the same date it was obtained near Carchemish. At 800 B.C. 5000 talents of iron were captured at Damascus. About 700 B.C. there was the immense store-house of iron in crude ingot, estimated to contain 160 tons of metal, as well as finished articles.

In Egypt, a group of iron tools found at Thebes is dated, by an Assyrian helmet, to the invasions of 668 or 666 B.C. (*Six Temples*). These are the parents of many modern forms; and most of them are of steel, sufficiently to take permanent magnetism. Rather later iron tools are common in the Greek settlement of Naukratis, but they do not appear in purely Egyptian sites.

Many suggestions of an Ethiopian source of Egyptian iron have been put forward. Had iron been usual there at an early date it would probably have become familiar in Egypt. So far there is no ground for supposing that any of the slag heaps at Meroe and elsewhere in Ethiopia are earlier than the considerable civilisation of that region, which began with the XXVth dynasty and continued from 700 B.C. onwards.

The sources of the European and Euphratean iron would be quite sufficient to account for the iron found in Egypt, even apart from the Ethiopian. Yet iron slag is often found in crucibles at Memphis, Defenneh and Naukratis, showing that in Greek times the ore was reduced in Egypt, from whatever sources it came. For Western Europe doubtless Noricum was the main source, as that region—the modern Styria—is one of the greatest and earliest centres of iron working. For Assyria the Chalybes region, south-east of the Black Sea, and the Tiyari mountains, north-east of Nineveh, would be the sources. It is almost certainly through the Chalybes that the Greeks first knew this iron, as they called it *khalups*, a word that

seems foreign in its form. There were two tribes of Chalybes, which are most fully mentioned in the *Anabasis*, and by Strabo. One was in the north-west of Armenia, the most warlike people of the region, wearing helmets and greaves, and armed with a long spear and a falchion. Across the mountains there were the other Chalybes along the Black Sea, behind Cerasus, who lived by working iron, and a little west of that iron working has continued to the present time.

The name of the Chalybes, from which the Greeks took their name for the metal, is apparently Semitic in origin. It seems obviously connected with the Arabic *halaby*, a tinker; and with the well known mutation of *h* and *s* we can hardly refuse to see in this the *soluby* or steel-worker of Arabia. This word *solb* for steel is Semitic, as it is clearly derived from iron being the strongest material; *solb* is loins, the strongest part; *salib* is firm or hard; *salebah*, solidity; *solb*, steel; *soluby*, a steel-worker; *halaby*, a tinker; *Chalybes*, the iron workers; *Chalups*, iron; and our own word chalybeate ends the chain.

Whether the distinction between *sideros* and *khalups* was that of iron and steel, deserves to be considered, certainly the Assyrian tools found in Egypt are mostly mild steel, as they can be permanently magnetised. The distinction in use of iron and steel is most marked in the sickles of Roman age, where the body of the sickle has a groove all along it (Figs. 25, 26), in which is fitted the thin strip of the more valuable steel cut into a saw-edge (*Ehnasya*, 23). One of the finest iron tools is the large double axe, Fig. 24; unfortunately the date of it is not known.

Antimony was worked in Mesopotamia, where it was used pure, and also as an alloy in copper. In Egypt beads of antimony are found, of the XXIInd dynasty, and therefore they may have been brought in from the East. It is generally reputed that the *kohl* eyepaint is sulphide of antimony, but that is the rarest material. In prehistoric times galena and malachite were regularly used for the eyes. In historic times, out of 34 analyses 21 are of galena, 5 ochre, 3 malachite, 3 manganese, and only 1 each of magnetite and antimony. It does not seem, therefore, that the Egyptians had any ready source of antimony.

Zinc has only been reported once, as $1\frac{1}{2}$ per cent. in a piece of prehistoric copper. Probably if looked for it would be found in metal of the Roman period, as the Roman coinage is mainly of brass. Coins of the first two centuries of the empire average 12 per cent. of zinc, and only 2 per cent. of tin, and $1\frac{1}{2}$ per cent. lead (Smyth, *Catalogue of . . . Large-Brass*).

Osm-iridium is found occasionally as an impurity in gold of the XIIth dynasty, in the form of small hard white specks. The object of the Egyptian would certainly be that of the modern worker—to get rid of it if possible.

Some of the above material is due to Prof. Gowland's lecture on "The Metals in Antiquity" (*Journ. R. Anthrop. Inst.*, 1912, 235), which is valuable for the accounts of known sources and processes, though not so complete on the historical side. Dussaud's *Civilisations Préhelleniques*, De Morgan's *L'Age de la Pierre et les Métaux*, and the records of my own excavations have supplied the main facts. It still remains most desirable to have a much larger number of analyses of exactly dated examples. A spectroscopic examination of ores from different sources, for detecting rare elements, might give the clues to the origin of the various ancient supplies of metals.

W. M. Flinders Petrie.

PERIODICALS.

Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXVI, 1914. Liv. 1–2.

und . HERMANN KEES. In the frequent figures of the *ka* following a king, with the falcon-name or *ka*-name on the head, there is usually the inscription over it describing it as "the king's *ka*, life of the lord of both lands, *khent zebt khent per duat*." It has long been a question what localities are described by these names *zebt* and *per duat*. One inscription at Dendereh adds *per dua em het seshesht*, "in the temple of the sistrum," *i.e.*, of Dendereh. This implies that the localities belong to a temple. Further, at Dendereh and at Edfu a chamber is called the *per duat*. It is too small for active ceremonies, and was probably a wardrobe. The scenes on it show the king purified with water and incense; the king's *ka* purified with incense; and the king's bones with natron. It appears also to be the name of part of the palace, as there is a title in the Old Kingdom *Her seshta ne per duat*, "over the secrets of the *per duat*." When Sanehat returned to court the king ordered his officials "Go ye to the *okhenuti duăt* that he may renew his position," suggesting that it was the wardrobe of the court. Regarding the *zebt*, there is a title *shemsu ne zebt*, also *sehez zebt* and *mer zebt*. The first occurs on the temple of Ne-user-ra. From these evidences, and much collateral material of less direct weight, it is concluded that the *per duat* and *zebt* were parts of the primitive palace; like all other parts of the palace they became transformed into the temple system.

Sallier II, p. 1, l. 8.—G. MASPERO. A short note points out a mention of a place for combats of bulls, a regular arena. This agrees with the mention by Strabo of regular bull fights in the dromos of the temple of Ptah at Memphis.

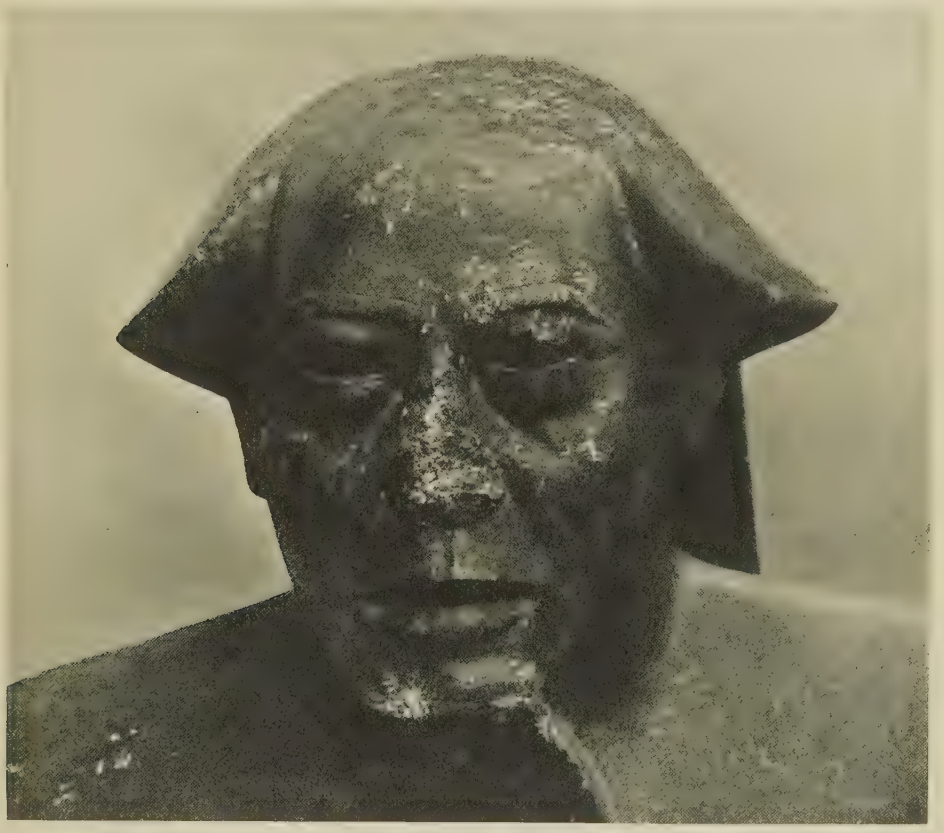
Notes on the Story of Sinuhe.—ALAN H. GARDINER. This is a supplement to Dr. Gardiner's edition of the story, giving parallel text of those parts which are duplicated in various sources. There are now thirteen sources known, most of which are of only a short passage on ostraca, probably writing exercises.

Das Felsheiligtum des Min bei Achmim.—HERMANN KEES. This is an account of the rock shrine in the cliffs north of Ekhmin, with hand copies of the inscriptions compared with those of Lepsius. It dates from Thothmes III, with additions by Ay and Ptolemy I and II.

Recherches sur la famille dont fit partie Montouemhat.—GEORGES LEGRAIN. II^me^ partie, *Les enfants de Khaemhor*. Chap. III^eme^, *Branche Nsiptah*. This is a continuation of the list of monuments reported in ANCIENT EGYPT, 1914, p. 37. The list continues:

XLVI. Chapel of Tahraqa in the temple of Mut.
XLVII. Statue of Grant collection.

XLVIII–LIX. Funeral cones of Mentuemhat.
LX. Base of statue of Mentuemhat.
LXI. Stele of adoption of Nitoeris.
LXII, LXIII. Group of Mentuemhat and Nsiptah II.
LXIV. Table of offerings of Nsiptah II.
LXV. Statue of Nsiptah II.
LXVI. Statue of Psenmut dedicated by Mentuemhat II.
N.N. Bronze fitting of gate of Da-ast-hebu, dau. Mentuemhat.



Black Granite Head of Mentuemhat. Temple of Mut. Cairo.

The relationships of all the persons named here are as follow:—

Astkhebt > Da ast hebu II ?
Neskhonsu > Nesptah.
Nesptah I > Mentuemhat I > Pa sen mut—Mentuemhat II.
Astkhebt > Uzarans
Shepnemut > Zed khonsu afonkh ?
—Nesthoth.
—Horsaast.
—Da ast hebu I.

Mentuemhat the great ruler had four wives; the children of two are known, but the mothers of the other two are uncertain. The total limits of the above four generations is about 750 to 600 B.C. Mentuemhat had concentrated most of the great titles; hereditary noble, prince of Thebes, keeper of the royal city and of Nekhen, sealbearer of Upper Egypt, fourth prophet of Amen, scribe of the temple of Amen, instructor of the priests in the temples, keeper of the royal land to its limits. In official acts he and his son took precedence of the high priest of Thebes.

Bemerkungen zum Atonhymnus.—Fr. W. von Bissing. This is a criticism of small differences in the various examples of the Aten hymn at Tell Amarna. The conclusion is that most of the errors and variants arose from the sculptor rendering in columns of hieroglyphs the documents written in lines of hieratic.

Note additionelle sur "Le X^e^ nome de la Haute-Égypte."—B. Touraieff. A description of a stele at Moscow giving figures of six divinities of Aphroditopolis, the Osiride family and Atmu. The latter god seems to have been represented as two hawks on a standard, like the ensign of Koptos. The stele was for a priestess of Atmu Ta-khredt-ast born of Ta-khredt-khonsu.

Une stele de Hawara.—G. Daressy. This stele of the Ptolemaic age bears long inscriptions, which are here given in full. The person was a prophet of Neit, Pedasebek son of Peda . . . . . and Nefru-sebek. The father's name contains that of god walking holding the *user*. The longest text is a copy of the *Book of traversing eternity*, of which but few copies are known. The usual text is printed here in duplicate with the stele. Another long text is an appeal to be remembered, not of the old vigorous kind of the Middle Kingdom, but very diffuse and vague. He boasts that he did not sit out and gossip on the mastaba. He was a councillor to his district, no girl wept because of him in the time of prosperity, but each mourned when he was enfeebled. He made every one that he instructed to know his duty, purified and guided him. There is a *nesut da hetep* to Amenemhat III, in which Pedasebek is written Pen-sebek.

Monuments égyptiens divers.—Raymond Weill. 1. An archaic cylinder of grey glazed pottery. The inscription is rudely incised, "Horus *mery taui(?)*, vulture and uraeus *nebty*, Horus, *Aty* the king standing." It appears as if after *mery* there were *ta* with two strokes of earth sign. If so this would be of Pepy I, which would be likely enough otherwise. A cylinder of the MacGregor collection is compared with this, but there are no signs in common, except Horus and *mer*, and it is certainly of a different king. Another cylinder of white pottery has a stag twice repeated on it.

2. Clay impressions of the basalt cylinder of Khufu, which has been for some years in University College, London. These clay impressions were made by the Arabs, and were commonly to be seen on sale. Capt. Weill supposes that two different cylinders were used to make the impressions, and that the impressions came from some ancient group.

3. A cylinder of dark blue glaze of Assa, curiously cut off short at the top, leaving only the feet of the falcon. It was for a "*nesut rekh* chief of the prophets in all places, prophet of Neit north of the fortress." This title was parallel to that of Ptah south of the fortress, both referring to the positions of the temples to the Memphis fortress.

4. Another example of a dog with the Berber name *Behu*, like the dog *Behuka* of the Antef tomb, has been met on the remains of a tomb cut up for sale. It appears to be of the Vth dynasty.

5. A piece of a limestone tablet, with squares ruled on it, and the cartouche Ra-măot engraved. This is connected with two scarabs which have the name Ra-măot Sebek-hetep. This name is not yet known on any larger monuments, and the position of it is obscure. It is probably of the XIVth dynasty.

6. A wooden stamp has a cartouche on it, surmounted by feathers. It reads *Amen neb* and a uraeus.

7. An order scribbled in hieratic on a potsherd, refers to a case to be made by a carpenter, of which a sketch is put below the writing. The sketch has by it, at the side "Height 5 palms," along the top "Width 4 palms," and the proportion of the sketch agrees to this. Further out on one side is "4 in the *menu*"; hence *menu* is the name for the horizontal distance away from the eye, what we call "deep back." The proportions are familiar enough in the boxes for funeral objects, about a foot square and fifteen inches high, with a small cornice. Capt. Weill, however, supposes it to have been the stone basis for a statuette.

8. An account is given of a fine tomb at Tuneh, which contained a sarcophagus now in the Cairo Museum, and many ushabtis now scattered. This was of Tehuti-ardas, son of Shepses-ardas, both high priests of Hermopolis.

9. A broken lid of a stone box, with a bound captive lying on it, bears the name of Sheshenq III.

10. A small ivory pendant, in the form of a couchant bird, has on the base a figure of a king squatting, and a blundered cartouche of late time.

11. A throne of a seated figure, coming from Saft el Henneh, bears inscriptions of Kharu (the Syrian), born of Pa-un-nekhti and the lady Tădaher.

12. Some of the inscribed blocks are described that have come to light in the recent cleaning of the Deir Amba Shenudeh, or Deir el Abyad or White Monastery. They are of Aahmes, and a shrine of Hakar of black granite. Strangely no notice is taken of the great red granite shrine of Naifaarud, which has anciently been cut up and used to floor the nave of the basilica. A reference to the Research Account volume *Athribis*, p. 14, would have supplied this, and also explained that the ruins near the monastery are those of an earlier Christian church and town, and not of a pagan temple, as is suggested in this paper.

13. Some pottery stands are formed of three closed vases, joined by cross pieces; they are of Coptic date.

Einige Bemerkungen über den Thronwechsel im Alten Reich.—Amélie Hertz. This paper calls attention to the uniform formula of the beginning of each reign on the Palermo stone, which was already noticed some years ago. First is *nesut bati khou*, the manifestation of the king of Upper and Lower Egypt; then the union of the lands, shewn by entwined plants around the *sma*; then *deben hă anb*, "procession round the wall" as it has been rendered. Perhaps "procession behind the fortress" would be a closer idea. It is again proposed that this is a ceremonial at the beginning of a reign, a perambulation of the boundaries to take possession. There follows a discussion of the months and days named for the fractions of years beginning and ending reigns. Unfortunately they have been wrongly extracted, 10 for 9 months, and ignoring the months lost in fractures of the stone. The

intervals really appear as follows, those with a ? being inferred from the space now damaged :—

Mena (?)	6 m.	7 d.	10 m. 20d., interregnum 45 d.
	+4 m.	13 d.	
Shepseskaf	3 m. ?	24 d.	11 m. 5d., interregnum 30d.
	+7 m. ?	11 d.	
Neferarkara	9 m.	6 d.	11 m. 13d., interregnum 22 d.
	+2 m.	7 d.	

Note sur l'Isthmus de Suez.—JEAN CLÉDAT. This paper describes various objects from Tell el-Maskhuta.

1. The upper and lower end pieces of a door, cast in bronze, with a dedication "Bastet give life to Peda-atum son of Peda-khonsu, born of the lady of the house Tada-hernepe, year 6."

2. Bronze base of a statuette with inlaïd silver inscription of Nepat the goddess of grain, dedicated by the scribe of rolls of the palace Zed-neit-auf-onkh.

3. Head of rose granite of Saite period, of a servant of Bastet, *uartu* of the . . . . . , named Uakaremen. A large scarabeus rests on the head.

4. Handles of green glazed sistra of Aahmes and Nekht-nebef; one names the temple in Paqerhet.

5. Fragments of a blue paste cup of Aahmes.

6. Fragment of a green glazed plaque with falcon name of Nekht-nebef.

7. Fragment of black granite, mentioning either Pankhy or Cambyses.

8. Bronze Osiris, with dedication by Nesptah son of Tayfden.

9. Bronze Harpocrates, with dedication by Aoha-ardas son of Penefu-da-bastet, born of Peda-uazet-pe-nefu.

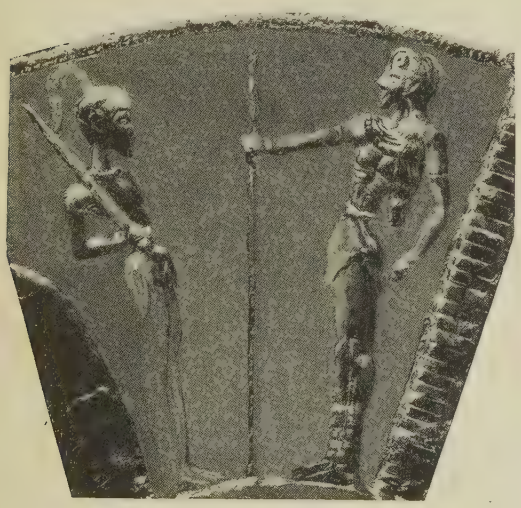
10. Bronze Osiris, dedicated by Peda-pep (?).

11. Fragments of sculptured limestone, of Nekhthorheb, one with the head of Nut, and naming the gods within the temple of Paqerhet.

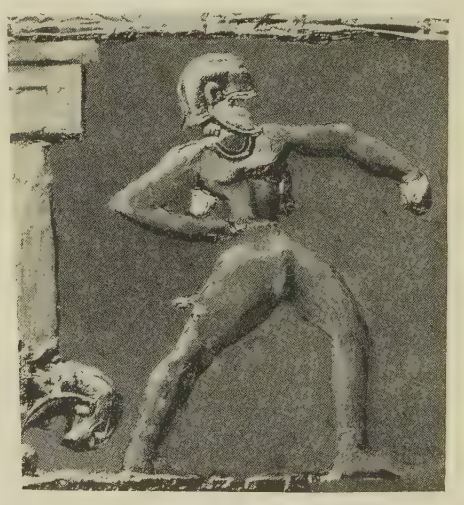
REVIEWS.

Les Civilisations Préhelléniques dans le Bassin de la Mer Égée.—RENÉ DUSSAUD. Large 8vo, 482 pp., 325 figures, 13 plates. 24 frs. (Geuthner, Paris.) 2nd edition. 1914.

This work, which appeared a couple of years ago, has here been re-issued with revision and many additions. It was much needed as a general view of the subject for those who cannot have the large number of scattered publications in which the discoveries of the last decade have appeared. The requirements have been well met in general, without neglecting any part of the wide field. It is only to be expected that in such a range some part of the facts or reasons should escape the summarist; and such points that we may notice here do not reflect on the construction of the work as a whole. We hope that future editions will give scope for rendering it still more suitable and exact. It will perhaps be most convenient here to give an outline of the volume, noting minor matters by the way, and then to deal with some larger questions at the end.



1.



2.

RELIEFS ON THE STONE VASES OF HAGHIA TRIADA. Scale 2 : 3.

The work is divided into six chapters on different regions, and two general chapters on the religion and ethnology. Crete naturally comes first, with 81 pages, as it has yielded a more continuous view of the early civilisations than any other of the regions. The main sites are described, Knossos, Phaestos, and Haghia Triada, following well known details. No attempt is made to explain the remarkable feature in these palaces of the very wide flights of steps, 35 to 45 feet wide; they seem to point to large groups or fraternities in procession having been a main feature of the religious festivals. The tombs are described, with the strange ossuaries, which seem to show the same custom as in modern times, of removing

skeletons from graves after two or three years and placing them in an ossuary. Nine types of grave are now recognised, no one of which extends over more than three of the nine Minoan ages.

The discussion of the pottery, metal work, painting, and other arts is arranged by periods, and is fairly complete. The only regret is that some of the supreme examples are poorly rendered. The figures of the great conical vase of Haghia Triada do not shew the very important details of the helmets, nor other points; and the cup is in bad perspective, shortening the figures. We here give photographs from casts of these, as they are not sufficiently known (Figs. 1 and 2). Another matter which yet claims representation is the beautifully varied series of stone vases from Mochlos, which give a marked character to the early period (Figs. 3–7).

Coloured Marble Vases from Mochlos.

3, 4. Copied from Egyptian. 5. Egyptian, VIth Dynasty.
6. Influenced by Egypt. 7. Typical Cretan.
(*From Seager's Mochlos.*)

The exquisite blade of a dagger from Mochlos, with its fine arched ribbing and trefoil ornament, gives perhaps a more vivid sense of the taste and feeling of its period than anything else that has survived.

The table of stratification of Knossos shews the astonishing fact that the whole of the nine classified periods occupy less thickness than the great neolithic stage beneath them. It is true that in some periods a great deal was swept away when founding new buildings, but yet the classified age of probably four thousand years cannot be much longer than the neolithic. We are thus faced with a continuous settled life in Crete quite as ancient as that of the pre-historic Egyptian. In the table of chronology it is strange how the consistent and detailed history left by the Egyptians is ignored, as if it had no more foundation than the vague guesses which modern writers try to substitute for it. The Egyptian history is not a supposition

of any modern writer, but a consistent mass of national record preserved by many sources, which very few people take the trouble to understand.

In dealing with dress, a strange remark is made that the appearance of the corset must be relatively late because it supposes the use of copper. It is very doubtful if there ever was a metallic corset till a century ago; probably all the peasant corsets of Eastern Europe now are built with beech-wood busks. The curious baggy dress shewn on a Cretan seal is closely like a dress which came into fashion in the XIXth dynasty in Egypt; it is unlike anything before it in either country, and perhaps therefore due to some third centre (Figs. 8–11). Unfortunately

Baggy Dress, Greek and Egyptian.

8, 9. Sealings from Zakro. 10. Cretan Sealing. 11. Egyptian, XIXth Dynasty.

no authority is given for the assertion that the female sphinx is represented in Egypt from the IVth dynasty; it is usually believed that such are not known before the XVIIIth dynasty. Surely, also, the well-known octopus weight is of red gypsum and not of porphyry.

The second chapter is on the Cyclades, and here the material is not so hackneyed as that of Knossos. A general outline of the system of tombs, and the use of obsidian and metal, comes first. Then the remains of Thera, Delos, and Melos; where Phylakopi with its succession of three towns is described. The pottery series of these towns is quoted and figured from Mr. Edgar's researches. It is expressly stated that Melos is the sole source of obsidian work in the Aegean; if so, it is remarkable that some found in Egypt is referred to Samos by the Mineralogical Department of the British Museum. Obsidian was used together with metal, and was given up only in the latter part of the bronze age. The discussion of lamps leads to a misunderstanding of a lamp with a sub-chamber, which is supposed to be for catching drippings of oil. Any oil that dripped through the pottery oil-holder would as readily soak into the body beneath. It can only be explained as a water chamber—not to keep the lamp cool, but to

saturate the pottery, so that the oil should not soak into it. Such a system in Egypt is described by Herodotus, and found provided in the limestone lamps of the XIIth dynasty.

A brief chapter is given to the Trojan discoveries, stating the stratification of the successive cities and their ages. The dates are unfortunately given in the arbitrarily reduced chronology; it is much clearer to keep to the dynastic equivalents. The first two primitive towns were of the Old Kingdom (IV–VI); the great second age, to which belonged all the gold jewellery of Schliemann, is of the Middle Kingdom age (XI–XIV); three villages fill up the Hyksos age; and the Homeric Troy is of the XVIIIth and XIXth dynasties.

The fourth chapter treats Continental Greece pretty fully. The great sites are described; and Malta is also brought in, illustrated by pottery and a figure, though no plan or description is given of the great structures there. The glass from Spata is described as usually white, more rarely blue; the white is really a decomposed blue. It is stated to have been poured liquid into moulds, but all early glass was worked in a pasty state, and pressed into moulds. In the third period of Orchomenos, called Minyan by the excavators, and dated at Phylakopi to the Middle Kingdom (pp. 182–3), the tall-stem cups (p. 186) occur which are much like the Hittite "champagne-glass" cups of the same age (see *Ancient Egypt*, I, 172). This strongly points to some connection, of trade rather than of race, which also extended to Egypt, where such long-stemmed cups or bowls were made in the early part of the Middle Kingdom. Another remarkable occurrence is that of the steatopygous figure in Thessaly with purely neolithic work of an early type. This is probably later than the steatopygous figures of the French caves, but perhaps before the similar figures of Malta. An interesting remark is that the mainland buildings have fronts with two pillars and three openings, whereas the Cretan style is with one pillar dividing the entrance in two. Such is also the style of rock tombs in Palestine, perhaps derived from the Cretan invasion. The supposed Phoenician sources of the Mykenaean culture is rightly repudiated; the Phoenician power arose much later than growth of any pre-hellenic civilisation. Some brief notice is given of the Sicilian, Italian, and Iberic connections, the latter of which is, however, very uncertain.

Cyprus is treated at length; as a land of such a secondary art it receives undue notice compared with the original styles of other lands. The miserable mismanagement of its antiquities during British occupation is described, as well as the earlier frauds of Cesuola. Prof. Myres' work is recognised as the basis of scientific classification, and the different periods of the pottery are fully stated. The metal work is also well described. The largest copper adze found in Cyprus (Fig. 185, 12) is of exactly the form of the copper adzes of the Ist dynasty in Egypt, some of which are half as large again. This points to Cypriote copper being already worked at that date.

The whole question of the thrusting and cutting weapons is hardly put in shape. An entire distinction should be made between the rapier and dagger with mid-rib, which are for thrusting, and the flat sword and flat dagger with rounded end, which are used for cutting. The mid-rib type belongs to pre-historic Egypt, Cyprus, and Mykenae; the flat blade is found in Syria, and the Hyksos and XVIIIth dynasty periods. The varieties of attachment are noted by rivets or by a tang, but the meaning of the difference is not noted. The rivets are required for attachment to handles of ivory or horn, the short round handles generally used for thrusting; the tang is intended to fit through a longer handle of wood or bone,

grasped by the whole hand, and more generally used for slashing. A doubt is expressed whether the Aegean smiths influenced those of Europe and Scandinavia; the evidence of the diffusion of spiral design should suffice to shew such influence, if not, indeed, a real family of work.

In the chapter on the Aegean influence in Egypt and Syria the author seems to be less at home in his material. He states that in the Ist dynasty the Egyptian texts call the population of the Aegean isles *Hanebu*. Certainly there is nothing until late times to shew where the *Hanebu* lived, and it would be interesting to have any reference to the *Hanebu* so early as the Ist dynasty. The black ware of the Ist dynasty at Abydos, which is absolutely identical with that made in Knossos, is quite ignored; as also are the northern decorated vases found in the Royal Tombs and at Abusir. Whatever may be their source—Aegean, Asianic or Syrian, at present unfixed, they shew an important trade connection with the north. Also the great mass of fragments of over 700 Mykenaean vases found at Tell el-Amarna is barely hinted in a footnote. Thus the most important connections, by their age, and by their numbers, scarcely appear, and the proportions of the historical connection with Egypt are not shewn. With a characteristic disregard of the reader, not a single illustration is given of the Old or Middle Kingdom connections, except one at the end of the chapter; while pottery of the iron age, from Cyprus, is thrust into the early Egyptian discussion.

12. Pottery Game-board of 60 holes. XIIth Dynasty, Kahun.

The Egyptian gryphon of Mentu is said to be derived from the Mykenaean gryphon, but the derivation is clearly from Egypt to Greece. Less than eight pages are given to the Egyptian relations, although they are the basis of the history; and only four illustrations appear, which are quite insufficient.

The Syrian and Cypriote connections are much more fully handled. There is no hint as to the abundant Egyptian dating of the brown *bilbils*; these are here classed as Cypriote, with imitations from Syria. The best part of the chapter is the discussion of the bowls with rows of imitations of Assyrian and Egyptian subjects, dating from about 700–550 B.C. While Poulsen would put them to the credit of the Phoenicians, Dussaud gives reasons, from the Aramaic dedications and the subjects, for their being Cypriote. Some assertions seem to need support. That "the primitive potter was often a nomad" is hard to reconcile with the regular use of skin, wood, and basket vessels by nomads, ancient and modern. There is not a chip of pottery to be found on the South Palestine sites, even though they were settled towns for ages, because the nomad usages prevailed. The long series of types of Syrian pottery published by the Palestine Fund are quite ignored. The Gezer game-board (Fig. 217) is called an idol, although it is a

well known type found in perfection in Susa, with exactly the same system of holes for recording like a cribbage board; and it is also found with the same holes in Egypt (Fig. 12). That a counting game-board was modified to a suggestion of the human figure does not imply any religious meaning. The body of the chariot on the Enkomi ivory is said to be derived from Assyria; but just the same form occurs long before, from the tomb of Amenhotep II at Thebes. The *Tridacna* shells with Assyrian motives are illustrated, and their Cypriote origin considered. A fine plate shews the strongly Assyrian style of the votive bucklers from Crete; this was perhaps due to direct influence through Asia Minor, as there is nothing of Cypriote style traceable. On the whole, M. Dussaud inclines to give Cyprus a much more important place than would seem warranted by the entirely borrowed sources of its work, from Egypt and Assyria. It was only original in its clumsiness and poverty of design.

The chapter on Cults and Myths takes us back to the refreshing originality of Crete. The seals, frescoes, and figures of religious subjects are fully given, and their meaning discussed, in a chapter which is the longest in the volume. Of course the Cretan cross is figured, but no mention is made of it in the text; at least it should be remarked that the stem of it is a conjectural restoration.

The last chapter, on the Aegean Peoples, deals with different branches of the civilisation, as well as the ethnology. The shipping is well illustrated; but in the alphabet question, which occupies sixteen pages, there is apparently no consciousness of the fact that the signs discussed were all used by the Mediterranean peoples and in Egypt long before the Phoenicians. The Phoenician tradition dominates, and it is said that the prototype alphabet must have been composed of twenty-two letters identical with those of the Phoenician alphabet. The regular scheme of repetition which is imbedded in the alphabetic order proves that much is missing, and that much has been added to the prototype alphabet. Further on, we find a similarly antiquated point of view as to the identity of the Mediterranean peoples named in Egypt; for we here see Sagalassos, Sardes, Ilion, Dardanians, and others doing duty as they did fifty years ago. Modern work has put the whole subject in a different point of view.

We may now turn to some of the general questions involved in this work. There are important historical data as to the rise of the civilisations of certain lands. In the Cyclades there is no neolithic period, and they do not appear to have been inhabited before the copper age (p. 100). The western coast of Asia Minor, excepting the Troad, does not seem to have had any civilisation before the age of the XVIIIth dynasty (p. 203). The Akhaian invasion of Greece, about the XVIIIth dynasty, brought probably the earliest Indo-European speech to that peninsula (p. 441). These are all landmarks of importance in the early ages.

An unexpected boundary to the Aegean culture is presented by Thessaly, where there is no link with the south before the XVIIIth dynasty, but on the contrary a neolithic age and a copper age which are a whole cycle later than elsewhere (p. 190). Moreover, Sicily and Southern Italy are linked with the style of Northern Greece down to that time. It is only in the Mykenaean stage, late bronze age, that Northern Greece and the West, with the whole length of the Adriatic, came into line with the Aegean (p. 212). We must realise, therefore, that the Cretan civilisation touched its bounds on the west and north, near by in the Peloponnesus, while it stretched out on the other side to Egypt and Syria.

A valuable table at the end shows the relative periods of nine different regions; the equivalence of the stages side by side enables the comparisons to be readily

grasped, and we need not complicate it by the very questionable dating in years. One of the most significant results is the difference in the introduction of bronze. In Crete, the Cyclades, Troy, and Cyprus bronze appears in the age of the XIIth dynasty; yet Egypt then remained in the copper age, and bronze does not regularly appear there till later. This bears strongly on the origin of bronze, shewing that the tin came from the north, and not from the east. The abundance of bronze at an early period in Hungary suggests that the Zinnwald may have been the source of tin then, as it has been in later ages.

Regarding the chronology followed in the table and elsewhere, it is a remarkable admission that the strongest reason to be found for the short dating is that the palace of Knossos of the XVIIIth dynasty age is built upon the foundations of that of the XIIIth dynasty (p. 56). As the whole ground was cleared for the later building the superposition must be expected, whether the interval were one or ten centuries; and it no more shows a connection of age than do our modern buildings of London which cut into the Roman wall. Each case only shows that a thorough clearance of loose soil was made. There seems to be not a single clear piece of evidence to set against the solid and consistent history given by the Egyptians. An excellent warning against assuming that similar things are contemporary is given on p. 62; to which we may add that the *larnax*, or pottery-box coffin, belonging to about 1200 B.C. in Crete, is identical with that made at the beginning of the Ist dynasty in Egypt, two thousand years before, even on the shortest reckoning.

A very important assumption is that of Alashiya (which is so frequently named in the XVIIIth dynasty) being the same as Cyprus (p. 248). The question of the position of Alashiya is not discussed, and the minute study of all the evidence by Mr. Wainwright is never mentioned. That writer's exhaustive consideration of the land of Keftiu is summarily rejected without any reason (p. 199). The whole question should be much more thought out by M. Dussaud. He attributes much importance to Cyprus, while Mr. Hall has lately shown that Cyprus and Egypt had very slight contact. We find continually the assumption that Kaphtor, Keftiu, and Crete were all identical, and that Alashiya was Cyprus, one word being substituted for the other without any hint that the author is translating his facts by surmises. We see that Mr. Wainwright—exhaustively using all the facts and keeping strictly to them—finds that there is no confusion or mistake in the Egyptian paintings of details. His results are therefore certainly preferable to those of our author, who concludes of the Keftiu that "the detail is not always comprehensible" (p. 285), and "often the artists put more haste than conscience in their work, and we have the proof of it when they mix, in the hands of foreigners, Egyptian with exotic products, or when they attribute Aegean vases to neighbouring peoples such as the Retenu of Syria" (p. 287). When assumptions are so freely made as to identifications, it is to be expected that the confusion of the modern writer should be attributed to the ancient painter.

The reader's difficulties have been thoughtfully met in one way, by giving a warning when two sites of similar names might be confounded. Other difficulties are not sufficiently considered, as there is hardly enough systematic grouping put forward. Tables of the periods and localities, placed before each chapter, would enable a reader to grasp the meaning of descriptions much more easily. In one case it is needful to track from a description on p. 101 to find the types stated on pp. 107–8, and then to go back to the illustration on p. 85. The general description seems to have been written first, and the precise facts and figures dropped in

afterwards. The main grievance is that the figures and text so often part company; the view of Phaestos is put into the account of Knossos, the plan and view of Haghia Triada into the text of Phaestos, the most important subjects on pp. 67–70 have nothing to do with the text there, the weight from Knossos is put into the Cyclad tomb chapter, the descriptions on pp. 101, 169, and 313 have no references given to the illustrations, which are strayed far away, and there is no description to Fig. 279. The whole adjustment of figures and text should be sternly kept in hand by the author, and the printer not allowed to make such confusion. The publisher keeps to the disastrous custom of paper covers that will not hold together. A volume of nearly 500 pages of thick heavy paper, lightly stitched and unbound, will not bear any opening without falling to pieces. When will French publishers put a sixpenny board cover on books costing a pound, so as to save them from ruin?

It is greatly to be hoped that the present troubles will not long delay a third edition of this valuable summary, improved by more systematic treatment and further study. There is no other work which gives so useful and complete a survey of one of the greatest advances in ancient history.

Aegean Archaeology.—By H. R. Hall. 8vo, 263 pp., 33 plates, 112 figures. 12*s.* 6*d.* 1914. (Lee Warner.)

This volume gives a well-ordered and systematic account of the pre-Hellenic civilisation in its various branches. The material is of course familiar to those who have read recent books, and there is no fresh light on the subject; but for many readers who wish for a connected view of what they only know by stray fragments, this will be a valuable handbook. The full references will serve as a key to the more detailed publications. One may only regret that so many things are mentioned without any illustration; really a portfolio of everything that is known in this subject is what is much wanted now for students.

An outline of all the excavations and sites serves first of all to put the reader in touch with the localities and course of discovery. Early Troy is carefully fenced out, as not being Aegean in culture; yet, as it is on the Aegean, whatever is there found is in "Aegean archaeology," and deserves to come in as much as any other culture. The stone and metal work occupies the next chapter, noting especially the vases with reliefs. A full account is given of the varieties and styles of pottery, both of Crete and the Cyclades; and the importance of pottery is emphasized, as being continually changing, abundant, and not worked up again like metal objects.

The town and palace plans are discussed in detail and illustrated. Another chapter deals with the shrines and tombs. Decoration, painting and sculpture are fairly exemplified. The writing is described, but some example of the Cretan language, as preserved in Greek letters, would have been of interest, to give an idea of the sounds actually used. Lastly the surprising costume is described, and the weapons and tools. Thus a comprehensive view of the type of life and methods of the civilisation is fairly given.

Some slight oversights may be noticed. Red porphyry is named more than once, though on the next page (66) it is correctly called purple gypsum. It is suggested that the Egyptian "neolithic" potters turned to making stone vases on the introduction of metal (p. 72); but metal has nothing whatever to do with the grinding of stone vases, and the stonework fell off along with the pottery, and decayed as metal came into use. The lustrous black ware is not turned red by overfiring (p. 74) but by access of air in the burning. The sloping-sided door is

not "Egyptian" (p. 122), being never found in Egypt. Grey colour was often used in Egypt (p. 179), generally for grounds, as at Saqqareh, Meydum, and Qurneh. The sword and rapier are confused, as is usual (pp. 247–9); the dagger can scarcely be derived from the spear-head, as it is much older in Egypt, and was probably a more primitive form of flint weapon.

In general, we may welcome the prominence of the real bases of archaeology—the importance of pottery as a dating material—the partial repudiation of the fable that objects "work down" in strata, the supposed instances shewing merely unobservant digging—the remark that it is easy to go wrong over the time intervals between strata. Mr. Hall condemns the German habit of framing theories regardless of facts, as illustrated by the solar theories of Max Müller and his school, which captivated an ignorant world; and it is well said that "Archaeology then came to the rescue of history from the morass into which philology had dragged her." There is, however, another Germanism which strangely is still in full force in this book—the Berlin theory of Egyptian chronology, which defies all the history and the collateral facts which support it. Archaeology will not come into her own until facts rule and theories serve. Mr. Hall shews in this book a freer style than usual, with more comparisons, and more enthusiasm, which well befits the introductory purpose of such a volume.

The Tomb of Hesy.—By J. E. QUIBELL. 4to, 40 pp., 32 plates. 56 frs. 25. 1913. (Cairo Museum; Quaritch.)

It is singular how little has been known of the tombs from which the most celebrated works have been brought. The figures of Rahetep and Nefert came from tombs at Meydum, which were left neglected till the beauty of the sculpture was ruined, and were afterwards largely destroyed; the tombs of the Sheykh el Beled statue, and of the panels of Hesy, at Saqqareh, had been lost to sight, and it is only by hunting up memories of half a century ago that Mr. Quibell has recovered the clues from the last surviving workmen of Mariette.

At the north of Saqqareh, above the village of Abusir, a cemetery of some 500 mastabas has been recently cleared; they were nearly all small, and not of individual interest. Among the few large ones, that on the top of the hill was the most important, built at the beginning of the IIIrd dynasty for the great official Hesy, or Ra-hesy, "rewarded by Ra." This is 141 feet long and 69 wide; but at first it was only about half that size each way, and was enlarged twice or three times. It still stands sixteen feet high, but was originally much higher. In the second facade which was built were placed the celebrated wooden panels in the recesses of the false doors. There were originally eleven, but only five and a fragment of another remained undecayed. Of these panels excellent photographs are given in this volume, of which we reproduce, in our portraits, one which is not usually known. The wall which enclosed this facade, forming a narrow corridor, had painted on it a series of offerings; these were discovered by Mr. Quibell, and the careful drawings of the paintings form the most important part of the publication.

The first question that arises is whether this long series of elaborate paintings are of the actual size of the objects. As these are by far the earliest paintings of property, and are remarkably detailed, it seems not unlikely that they would be made like the objects, not only in form and colour, but also in actual size. A difficulty in the enquiry is that not a single plate has any scale on it, except the plans; nor is any scale stated in the text except that of a plate of fragments and

one of patterns, not even the stone and pottery vases have any hint of size to them. From three chance mentions of the length of objects it may be gathered that the scale is 1 to 11·4 of reduction from the wall drawings in the plates. The scale of the detailed figures in the text, and of the coloured plates, varies without any rule, or any scale attached. This omission is a serious bar to making use of so elaborate and costly a publication. Taking, however, the scale of 1 to 11·4 for the wall plates, it appears that the actual sizes of some paintings are as follow:—copper axes, 3½ to 4 inches wide; handles, 19 to 20 inches long; balance beams, 8 to 13½ inches long; alabaster tables, 16·4 inches diameter, 5·7 to 6·4 inches high; tent pole, 83 inches long; boxes, 15½ to 16 inches square; seat, 13 inches wide, 11½ inches high—seats are usually narrow, those from Qurneh were 17½ inches wide, 10 inches high, others 12½ and 11 inches wide; bed-frame poles, 57, 40, 65½, 63 inches long—actual bed poles are, half of them, about 70 inches, and the other half 38 to 62 inches; *sekhem* sceptre, 23·8 inches long, agreeing with usual proportion to a figure; head rests, 7·3 inches high, 6·0 inches wide—actual head-rests average 7·5 inches high, and 5·0 to 7·7 inches wide. Thus in each case the painted figures seem to be well within the usual variation of the actual sizes of such objects, and we may be justified in regarding them as having been directly measured off from the objects themselves. The importance of this we shall see presently. We will now follow Mr. Quibell's description of the paintings, with further discussion of their real meanings.

All over the false door front of the mastaba are painted the elaborate chequer patterns which are well known on early tombs; they are here shown with a row of loops along the bottom edge by which the coloured material is lashed down to a bar along the top of the dado. Evidently they were originally woven hangings, the detail of which is here copied. The strange white-on-black chain pattern is here, but is still quite inexplicable.

At the dark inner end of the long corridor are painted four lamps on tall stands, 40 inches high, in the position where such lamps would be needed. The outer wall of the corridor has, at the inner end, just the foot showing of a life-size figure of Hesy. At his side are three cases for papyri, doubtless the registers of his property. Before him is first the serpent game; it has seven coils divided into over 500 sections. Before it is a tray with three lions and three animals, which are most like lionesses, yet they wear collars as tamed animals. With these are six groups of six balls each, apparently twelve black, twelve red, and twelve yellow. There is at Saqqareh a scene of playing the serpent game with balls on the divisions of it; these balls and lions belong, therefore, to the game here.

By this is the usual 10 × 3 game board, with numbering beginning at the bottom right hand, as in later times. The tray of pieces contains two rows of seven men of the usual thimble shape, and four gaming reeds, two with black cross lines and two with red. These reeds were, therefore, used to throw—like dice—to show a chance number.

A third game is a long narrow board divided across in sixteen yellow bands, alternating with sixteen narrower green bands. The tray of pieces with this contains five black and five white tablets, like blank dominoes.

Three trays of tools lie beside the games; they are nearly alike, and the best preserved painting shows the saw, axe, three chisels of different widths, drill, bow for drill (?), drill cap, and two stone hammers, or polishers.

Below the tools are two trays, each containing two balance beams of different lengths, and two sets of weights (Fig. 1). The smaller set, of 11, is too much

damaged to trace its system. The larger set of 10 is numbered from 10 up to 100; the sizes imply that the thickness of the weights increased proportionately to the length and breadth. Taking the largest, of 100 units, it is 5·22 × 2·88 inches by the drawing, or exactly 15 square inches; at the usual gravity of hard stone, 2·7, this would be 10,200 grains for each inch of thickness. The usual thickness for such stone weights is about half their width, so that it would be about 14,000 or 15,000 grains. This is just the 100 *qedet* weight. If of the gold standard it would need to be 2 inches thick, which is a less likely proportion. In the second tray the set of small weights seem to be replaced by a set of small measures of capacity. That very small bulk measures were used, we know by the set of bronze cups from Nubt, which were for measuring gold dust, in a long binary series from $\frac{1}{2}$ to $\frac{1}{128}$ of a *deben*. (*Naqada*, p. 67.)

1. Tray with Balance Beams and Weights Numbered 10 to 100.
Tomb of Ra-hesy.

Next are two mysterious objects, nearly 12 × 14 inches, which might possibly be a kind of sieve formed of narrow strips of wood, used in searching for precious stones. Beyond are two red leather bags of about the same size, with necks falling over and tied; perhaps used for storing precious stones or gold. Two circular stone tables on conical stems, which follow, are of the type usual in the early dynasties.

The most remarkable group of the whole now appears, two series, each of 14, of graded measures of capacity: the upper series made of wooden staves, coopered with top, bottom, and middle bands (Fig. 2); the lower series, coloured red, probably of thin beaten copper. On comparing these two sets they are seen to be of the same series of sizes in both materials. As the copper must have been thin, the wood must also have been very thin for the contents to be alike. The wooden set is evidently for dry measure, the metal set for liquids. Each measure nearly follows the modern rule that the depth is equal to the diameter. As we have already seen that the sizes of the drawings are probably the same as that of the objects, and that this is strongly confirmed by the weights, we may now apply this result to the measures. The diameter is obvious, and the thickness of the metal would not appreciably alter the capacity. The depth should be measured from the top of the bottom band, as probably showing the internal depth. On extracting these, and

taking the average of the two series (or stating both if very different) we have the following results in cubic inches:—

cubic inches.		
960	960	$32 \times 30{\cdot}0$
502	502	$16 \times 31{\cdot}4$
378		378 $16 \times 23{\cdot}6$
190		190 $8 \times 23{\cdot}7$
91		91 $4 \times 22{\cdot}7$
58·2	58·2	$2 \times 29{\cdot}1$
27·5	27·5	$1 \times 27{\cdot}5$
21·8		21·8 $1 \times 21{\cdot}8$
15·9		15·9
11·3		11·3 $\frac{1}{2} \times 22{\cdot}6$
8·6		
7·3	7·3	$\frac{1}{4} \times 29{\cdot}2$
5·3		5·3 $\frac{1}{4} \times 21{\cdot}2$
3·7	3·7	$\frac{1}{8} \times 29{\cdot}6$
3·0		
2·4		2·4 $\frac{1}{8} \times 19{\cdot}2$

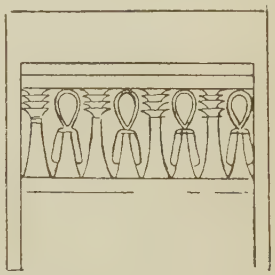
In the first column are the whole of the measures. In the second column it is seen how six of them closely agree in a binary series; and in the third column seven others agree in another binary series, as nearly as can be expected from the wall drawings and modern copies from them. The unit of the second column is between 29 and 30 cubic inches; that of the third column is about 23 cubic inches.

2. Drawings of Two Wooden Measures of 16 and 32 Hons. Tomb of Ra-hesy.

The Egyptian *hon* was $29{\cdot}2 \pm {\cdot}5$ cubic inches, agreeing with the second column. The Syrian *saton* or *sabitha* was 740 cubic inches, which $\div 32$ is 23·1 cubic inches. This is also $\frac{1}{10}$ of the *issaron*, or $\frac{1}{100}$ of the *epha* of Hebrew measure. As the tomb is filled with sand to preserve it, an exact measurement of these most important points cannot be made until some day when it may be re-opened. Even as the facts now stand we seem to have here data of the first importance for ancient metrology, as there are few good determinations of capacity measures, and those of a late date. We need now exact measurements to a hundredth of an inch of all these drawings of weights and measures.

Beyond are four chests on legs ornamented with rows of *zed* and *thet* signs (Fig. 3); the latter was also found as an amulet of yellow glaze and of blue glaze. With the chests are four larger chests or trays. Above these are 8 poles, from 41·5 to 64·6 inches long, and 5 tent poles of 83·0 and 87 inches long.

Next are three high chairs, one with a back; also a low seat with a back and one without, both having bulls' legs as in the Ist dynasty. A bed frame, 61 × 22 inches, is over these; it has the sacking stretched by a cord, looping it to the frame all round. Following this are two sloping wooden bedsteads (?), 62 inches long; a sloping couch with stretched sacking, 37 inches long; a sloping bedstead of 62 inches; and four bedsteads with head frames, 63 inches long. It is a surprise to see how generally the actual couch frames found in graves are much shorter than the height of a person. We are driven to suppose that the early Egyptian usually slept contracted on the side, in the attitude of the burials.



3. Casket Shewing *zed* and *thet* Decoration. Tomb of Ra-hesy.

There next follow two rows of boxes and baskets, of which eighteen remain. Among the articles in them are two *sekhem* sceptres; three headrests, one carved in one piece, one with a column and abacus stem, and one with two columns, an interesting variety all dated together; a tray of eye paints; a tray with scribe's palettes, colours, and water pots; two trays with tweezers of the Ist dynasty shape, and wig curlers (?); coils of thread and string, and stone vases, come next; boxes with domed lids that cover them over contain stone bowls of the gap-mouth type of the Old Kingdom, and circular stone tables.

This tomb, dated to the beginning of the IIIrd dynasty by a sealing of King Neter-khet, forms a landmark in the early civilisation; it fixes the forms of vases and tools in the intermediate time between the Royal Tombs and the pyramid tombs; it also gives a most unexpected light on the metrology. Every detail of woven pattern in the cloths, of the form of furniture, of the shapes of hieroglyphs, is full of interest in the history of Egyptian civilisation. Happily, thanks to Mr. and Mrs. Quibell, it has all been published almost as fully as we can wish, and we hope that the questions remaining will be settled next time that the tomb can be unearthed.

The Life and Times of Cleopatra, Queen of Egypt, a Study in the Origin of the Roman Empire.—A. E. P. B. Weigall. 8vo, 410 pp., 14 plates. No Index. 16*s*. (Blackwood.)

Romance is delightful, and so is History, but the combination of the two may not improve either. Scott happily labelled his history as romance; but Mr. Weigall labels his romance as history, seriously calling it a *study* in the Origin of the Roman Empire, and we must therefore take it from this point of view. Yet the preface argues against giving any of the evidences on which a new reading of history is here presented. If a writer is accepting the usual views and lines of thought, it may not be needful to give reasons for what is generally known; but when a fresh view is urged, and colours most of a volume, it is essential to state all the grounds for it, and not to refer to quotations as a "jargon of scholarship" to be "swept into the world's dust-bin." A romance is a romance, and its illusion is ruined by the horrid footnote, "This is a fact." But a "study," which claims to show a new standpoint

must be justified by facts, and that justification is unhappily lacking at the most critical points.

We must sympathize with any endeavour to put a period of the past into its work-a-day terms, and for such a purpose enough general references are here given to enlighten an ordinary reader. For a popular restoration, to give a living sense of a period, such a treatment is sufficient. Taken as being intended to make the public have some understanding of one of the greatest crises of the world, it would be a meritorious work, however some matters of taste may jar on us. But when a new rendering of the great politics of the time is thrust forward as a main subject, we need to take it critically, and not as matter of light reading. Mysticism in Religion may be in its place, as that concerns the individual only, and may be the key for his character; but Mysticism in History, reading the author's suppositions into the springs of action of the past, is a dangerous process unless it be very fully supported by plenty of evidence, and unless the writer shows also his care not to exceed the scope of his material.

The position of Cleopatra has been largely misunderstood in all ages; in some respects Mr. Weigall rightfully states it, but the most important legal position he ignores. It hardly needs emphasis now, that the moral standpoint of our age is peculiar, and will not fit any other period of history. We stand apart from all other times in making various professions which are ignored in practice. To apply our professions rigorously to the acts of the present majority would be fatuous, to apply them to the acts of the past is still more absurd. But because—partly from political prejudice, partly from later changes,—the acts of Cleopatra have been misunderstood, that does not justify us in trying to misplace her in a different direction, proclaiming that because she was not Phryne she was therefore Egeria.

The basis of her whole status and actions was that she was hereditary queen of Egypt. The Egyptian throne, like other property in that land, descended by female right. In the earliest times we find that kings were seldom, if ever, the sons of their predecessors. The royal daughters were brought forward at the great feast of the deification of the king, apparently to be married to his successor. This matriarchal system naturally led to a compromise with the patriarchal descent, by which the royal daughter was married to her half-brother, a son of the king by another mother. Such marriages were usual in the system of the early Hebrews and the classical Greeks, and even the full-brother marriage was allowed in Roman Egypt. Throughout the Ptolemaic dynasty the queens had led a predominant part; political action, intrigue, and the raising of armies were their special sphere, and only matters of trade and actual fighting seem to have been outside of their management. The brother and sister marriages were the rule; and in the close of the dynasty the two sisters Arsinoe and Cleopatra were so much older than the boy brothers that all political action rested with them. When Arsinoe was once removed, Cleopatra remained the sole real ruler of the land. What was thus to happen if a foreigner intruded and took possession of her rule? When the Persians conquered Egypt, a fiction was at once put about that Cambyses was descended from the daughter of the last legitimate king, Apries. When Alexander took Egypt, his maternity could not be falsified, so a fiction of his descent from Amen was framed to satisfy Egyptian ideas. Though the Ptolemies appear to have kept their family entirely in the Macedonian race, yet three centuries of occupation, adopting the Egyptian administration and system, would put Cleopatra in the full status of hereditary ruler, and, through marriage with her, any man would be legally established as king of Egypt.

The connection of Cleopatra with the successive rulers of Egypt, Cn. Pompey, Caesar and Antony, and her wish to pacify Augustus for the same end, was therefore her peremptory duty as heiress of Egypt. Such a political duty was nothing new in the land. The heiress-rulers of the Thebaid, Shepenapt, Neitaqert, and Ankhnes-ra-nefer-ab, were all political consorts of the kings of the XXVIth dynasty, even without being their co-habiting wives. The political duty of a marriage was quite familiar to Egyptian ideas. The political position of itself produced such marriage.

It is therefore quite irrelevant to the private character of Cleopatra to insist upon her having been married in the European sense to the *de facto* ruler of Egypt. Her public character was vindicated by her devotion to the lord of Egypt, whoever he might be ; she had done her duty to her country and to herself as ruler, when she took her place as spouse of the conqueror, and bore children to him. To have deserted her position, and refused to follow the fortunes of her country would have been political infamy. For us to insist in calling her wife, in assuming that some ceremony of "a purely Egyptian marriage" took place, in speaking of her as being "deserted by her lover," is to put her in the place of a western woman instead of an Egyptian heiress, to rule her conduct by the European laws of private life instead of by the Egyptian laws of public life. The whole subject of marriage law in Egypt appears to be one of a contract concerning property, in hand or prospective. No religious sanctions or ceremonies are known to have accompanied it. Even under Christianity, and in the family of a priest, a marriage contract was only concerned with the liberty of action, and of divorce by either party for a stipulated sum. If such was the case with ordinary private marriage, obviously no ceremonial was needed when the status of the parties was already fixed by the force of events, quite irrespective of any ceremonial marriage. Should we have had such glowing accounts of the magnificence of Cleopatrean banquets, and yet not a word of a festival which would have been the most important of all to western writers, if it had ever taken place? There was no such marriage ceremony, because it would have seemed entirely superfluous. The heiress of Egypt was at once *de facto* and *de jure* the spouse of the lord of Egypt by her position alone. She did not desert Antony at Actium, she merely followed her duty as heiress of Egypt to retreat there when the lordship was to be changed, and prepare her land and herself for a new lord. If added to her political situation there was a wealth of private feelings and a world of passion, she was bound to restrain that in its results as completely as a modern princess, who is condemned to marry politically and not as a private woman. Any other view of the western kind is merely misreading the situation by not understanding it.

The personality of Cleopatra is one of the most interesting on record. There seems to have been a fresh element beside the regular Ptolemaic stock. Her forefathers for centuries had never learned the language of the country they ruled, and some even forgot their native Macedonian, and could only speak Greek. They showed no trace of linguistic faculty; yet Cleopatra could speak seven languages, of all the countries with which she had to deal. The kings had been latterly notorious for gross bulk and pleasures of the table ; Cleopatra was lithe and sprightly. Who was her mother? Her father seems, by the family history, to have made a second marriage, but with whom is not on record. Perhaps with some princess of Syrian stock, who could show a Ptolemaic descent, and so keep up an hereditary claim on Egypt. The clue to the character of Cleopatra seems to lie in the history of her unknown mother, and it is beside the mark to term her a pure Macedonian.

The characteristics which struck the public attention were her magnificence of design, shewn with good taste supported by profusion, her wit and fascination of address, her wisdom in practical matters, all blended by an incalculable versatility, "she gamed, she drank, she hunted, she reviewed." There is but one comparison with this brilliance, the great queen of Palmyra who harangued her soldiers with a helmet on; with the severity of a tyrant when necessity required, and all the clemency of a good prince; born with the tenacity of a Spaniard; sober, yet having no scruple to drink with her officers; with a magnificent table and service; speaking at least four or five languages, fond of literature; having black eyes incomparably lively and glittering, a divine spirit, and most delicate shape and presence, with a clear manly voice, as Pollio tells us. These two greatest of queens may well have had a common ancestry in some Syrian princess.

Whatever folly attaches to the history of Cleopatra is due to the childishness of Antony, his vacillation, conceit as a general, lack of foresight and bad management. The queen tried to laugh him out of his hanging upon her, but in vain. Her sound sense and good feeling was shewn in her care of her children, and equal nurture of them all. In every turn of affairs her personality was the main element; and even at the age of thirty-eight—old for a Levantine—she bewitched the envoy of Octavian.

The characters that have stamped themselves on the mind of the world were all marked out by their intense vitality. Alexander, Julius, Cleopatra, Zenobia,—in a lesser degree Charlemagne and Henry VIII,—all were versatile, and yet excelled in every kind of action. It was their number of activities, all things to all men, and their supremacy in all directions, which has justly made them each more important than a myriad million of common mankind.

We may now look at the position of Julius as regards Egypt. To get the riches of the most wealthy land around the Mediterranean had long been an object of his. He tried to get appointed to Egypt when Cleopatra was only four years old. Blocked from the east by the ambitions of more powerful men, he turned to make himself a power by the conquest of Gaul. For eight strenuous years he built up a military strength, greater than that wielded by any Roman before; and then returned with that to subdue Rome and the world to his will. To suppose that such a will, so tenacious, so ambitious, should after those long years of undisputed power, suddenly find at the age of fifty-four a new scope of life at the bidding of a young woman, is too much for our author to require of us. The vision of Cleopatra teaching Caesar ambition, and moulding his politics, is so improbable that very clear facts would be needed to support it. But there is no evidence whatever for the idea of Caesar crossing to Egypt to learn his business. He came so soon as he could, to grasp the wealth which he had tried to reach seventeen years before, and his intended Parthian expedition was but treading in the steps of Sulla and Crassus.

The position of his son Caesarion is obscure. That Julius owned him is certain, that he regarded him as his heir is very doubtful. It seems fairly shewn by Mr. Weigall that Caesar stayed at Alexandria till the birth of Caesarion, whether for that or for political reasons cannot be settled. The position of Cleopatra with her infant son at Rome, by no means implies that Caesar could have made her queen of Rome. It is doubtful if even *his* will could have put a foreigner into that position. A century later, when all kinds of foreign mixture and looser marriage prevailed, Titus had to dismiss Queen Berenice from Rome when he became Emperor, and could not invite her to a joint throne for which

there was no other legal occupant. That Caesar wished to legalise his oriental union for Egyptian purposes is doubtless true; the proposal, however, was not a law to put away Calpurnia, his Roman wife, but to sanction the recognition by Rome of his having two wives, one in Rome and one in Egypt. For that end it was desirable to familiarise the Romans with the fact of his only known descendant being the son of Cleopatra, and her stay in Rome was for that end. But it does not in the least follow that if Caesar were to be formally king, in name as well as fact, that Cleopatra would be therefore queen of the whole Roman world, as Mr. Weigall assumes. She would then be queen of Egypt indefeasibly in Roman law, but not more. If the object were to make her queen of the Empire, nothing more was needful than for Caesar to have repudiated Calpurnia and taken Cleopatra instead, as readily as dozens of other political divorces and marriages were then arranged. That he did not do so is proof that there was an entire bar to Cleopatra becoming queen of Rome, a bar in law or in the good sense of Caesar, who after all watched his democracy very carefully.

The powers that Caesar assumed are quoted by our author as hereditary (159); yet the imperatorship was not hereditary. Mommsen says: "It is only in the case of the supreme priesthood that we have express testimony to his having made it hereditary." (V, xi.) The idea that without Cleopatra and Caesarion "the creation of a hereditary monarchy would be superfluous" (p. 168) is to import our ideas into Rome. In Rome, as in Babylonia and China, adoption was so important a function in social and family life, that it often took the entire place of descent. The hereditary laws of Caesar's position would only apply in Roman eyes and Roman law to his Roman heir, the adopted nephew Octavian, and could never be applicable to the son of a foreigner. To argue that a law of inheritance of an office would apply to Caesarion, is to suppose Rome ruled by English law. The heir was obvious and well known, the adopted son Octavian, of years for politics, and not the foreigner's baby who could not be of account during any likely survival of Caesar. No evidence whatever is given for the assertion that Julius had a "scheme for training up Caesarion to follow in his footsteps" (p. 170).

The next great possessor of Egypt was Antony; and it was his policy to support Caesarion, as a harmless infant, to balance the immediate political claims of Octavian as Caesar's heir. It is remarkable how none of the Julian family were succeeded by a son: it was only the XIth and then the XVIIIth Emperor who inherited a father's throne. Yet Antony was the ancestor of three emperors, his grandson Claudius, great-grandson Caligula, and great-great-grandson Nero.

The account given of Octavian is strangely spiteful; all the infirmities and valetudinarian habits of an old man in the seventies, as he was remembered and described to Suetonius, are here attributed to the youthful conqueror of thirty. We might as truthfully describe George III during the American War as blind and wearing a black skull cap. Some other mistakes are surprising. On p. 185, we read that Alexander IV was murdered "soon after his father's death," yet he survived thirteen years. On p. 258, the daughter of Sextus Pompey is described as "marrying Marcellus, the son of Octavian," whereas she was betrothed to Marcellus, the infant son of Octavia. On p. 353, the isthmus of Suez is described as 35 instead of over 90 miles across. Misprints occur in Myt*e*lene, S*y*stra, Ptol*o*mies, and Ant*h*ony, which have escaped the proof readers named in the preface.

It would require more accuracy than we have observed to give us confidence in the flow of assertions which carry on the narrative. Akhenaten is said to have

been epileptic (p. 141) of which no evidence is known; and on almost every page "must have been," "must have come," or "must have realised," do duty for connective facts that are missing. It is hard to forgive the cynical degradation of the story of Arria, of which Lecky rightly says "her death was perhaps the most majestic in antiquity"; it is here said to be a light matter, Arria "coolly handed the weapon" to Paetus, her exclamation is wrongly quoted as if Paetus was going to hurt her, and it is spoilt in translation. The author might qualify for managing the affairs of Cleopatra as major-domo or vizier in Amenti, rather than in expounding her life and policy that is past. Far more would we wish to see the solid stores of information that Mr. Weigall has garnered during his strenuous work as Inspector in Egypt; more volumes such as his on the monuments of Nubia would be most welcome, and build a permanent place for his reputation in Egyptology.

Ritual of the Mystery of the Judgment of the Soul.—By M. W. Blackden. 8vo, 36 pp., 1 plate. 5*s*. (Quaritch.)

The confused mass of documents of various ages and sources, which are commonly grouped as the Book of the Dead, form the greatest task that criticism has yet to handle. The restoration of the early texts is the first necessity, and no one has yet attempted to connect the scattered material. The assigning of relative periods to the various portions might give generations of critics a fighting ground. Some parts are of so plainly a question-and-answer construction that it is natural to suppose they may have been actually recited, and not only be for a guide book to the future world. In this work Mr. Blackden has boldly re-arranged some parts so as to frame a usable ritual. The question is how far this is justified: certainly the arrangement has no kind of proof for its plan; how far does it justify itself by internal evidence?

The system of this arrangement is as follows. Chapter 125 is compiled in portions from three sources (Ani, Nu, and Nebseni); in it are inserted at different places Chapter 30B of Ani, later the remainder of 30B from Nebseni, together with part of the Introduction. At the end is the rest of the Introduction, and part of the First Chapter. Now we do not know how early the chapters were arranged in the order in which we number them; but there seems no evidence that any such patchwork as this was the original connection of the documents. As a suggestion of the author's appreciation of the possibilities of a ritual arrangement it may stand; but if we wish to reach the historical development very different criteria are required.

NOTES AND NEWS.

THE terrible disaster to civilisation is stopping research in every direction. Excavations both in Egypt and in Mesopotamia are at a standstill. Not only English but American work is arrested. Dr. Lythgoe and Mr. Mace are not trying to reach Egypt this winter. Prof. Whittemore is actively supplying necessaries to the French Medical Corps at the front. The British School of Archaeology, and also the Exploration Fund, are both waiting till a safer situation is reached.

Mr. Engelbach is in the Quartermaster's Department, behind the British lines.

Of our former workers, Mr. K. T. Frost fell in action in the beginning of the war; of course no details are known. Mr. Angelo Hayter is now interpreter to the camp of German prisoners of war at Llansannan, Abergele, North Wales. Mr. North is in training in the East Surrey Regiment. Our other friends are continuing in their training as reported in our last Journal.

Recognising that most of the subscribers to the British School will feel the present emergencies to be the urgent call, our Committee has decided to ask all the subscribers who wish to help, to contribute through our Hon. Sec. to the Officers' Families Fund. This Fund, established in the South African War, has experienced management, personal care and watchfulness to meet all cases, and no waste on offices and staff; as one of the most admirable of such auxiliaries to our afflicted people, we hope it will have full support.

Meanwhile let us keep our Journal going, as that is so slight a cost that it need not impair any other good work. The present number deals with European relations of Egypt specially; the next will give entirely new material on the palaeolithic age in Egypt and its relation to the glacial periods in Europe.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

SOME of the branches are in full working order this winter, and bravely continuing their Monthly Meetings. Others are suspending their activities for the present, but perhaps we all need to have our attention turned for a brief hour to some subject other than that which absorbs us all, and I commend the resumption of meetings to the branches which have flagged. Knitting can be pursued by all the members except the lecturer, so the meetings need not mean waste of time.

LONDON. (Hon. Sec., Mrs. Sefton-Jones, temp. address, c/o Edwards Library, University College, Gower Street, W.C.)—Meetings, monthly, at 8 p.m., lecture, 8.30 p.m. Oct. 29, at University College, Prof. Flinders Petrie, on "The Use of Metals in Egypt." Nov. 5 (by kind invitation of Mrs. Purdon), paper on "The Flint Age in Egypt," by Prof. Flinders Petrie, read by H. F. P. Dec. 10 (by kind invitation of Mrs. P. Bigland), Mrs. Sefton-Jones, on "The Bogomils."

GLASGOW. (Hon. Sec. *pro. tem.*, Miss D. Allan, 15, Woodside Terrace.)—Meetings, open to public, at University, 8.30 p.m. Dec. 7, Prof. Milligan, on "Thousand Years on the Nile." Feb. 15, Prof. Gregory, on "History of the Climate of Egypt."

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Major Davenport, on "Ancient Egyptian Jewellery." Dr. Spanton, on "The Egyptian Water Lily." Rev. J. D. Gray, on "Neolithic Man." Mrs. Court, on "Sign Language."

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.)—Oct. 21, 3.15 p.m. (Mrs. Cobbold), subject, Schedule F. Nov. 18, 3.15 p.m. (Mrs. Schomberg), subject, Schedule G. A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

HILDA FLINDERS PETRIE.

THE PORTRAITS.

AMONG the few of the great works of early art that have survived, the wooden steles of Ra-hesy are justly celebrated. Some of them have been frequently published, and can be easily obtained in photographs. The one here given has remained practically unknown until the recent publication by Mr. Quibell from which we copy it. In the other steles we see a fiercely active figure, or one of hard determination. The present figure is apparently older, and with a more suave subtilty about the expression. How the early art could realise the diplomatic cunning of age is familiar to us in the primitive king of Abydos, so astonishingly rendered in ivory. Here we see much the same character, of refined caution and reserve, which would well befit an ambassador or an archbishop. The titles read in four vertical columns. Many of them are still unintelligible to us, but we can read of his being chief of Buto, prophet of Horus of Edfu at Buto, leader of the march, and architect.

The second head is that of the small figure at the side of the copper statue of Pepy I. Some have thought that it represents his *ka*, but the *ka* was of the same age as the person; this probably is the son of Pepy, afterwards king Merenra. The two figures were found, taken to pieces and packed one inside another, in a pit in the temple of Hierakonpolis. Mr. Quibell, who found them, states that the smaller figure was in three pieces, packed inside the larger. Yet the figures were made by hammering sheets of copper, and attaching them by copper nails, apparently to a wooden core. If there were such a core it is difficult to see how the pieces could be put one in another; and certainly the metal had not been removed from a wooden core, or it would have been strained open and bent. The rows of nails at the junction of the beaten plates are evident, and certainly there must have been a solid mass to form the top and back of the head, and the waist of the larger figure, which parts are not executed in copper. The wooden core—as in the royal statues in Westminster Abbey—seems necessary for such a method of work, with nailed sheets of metal; yet it is very difficult to see how the pieces could have been placed one inside the other when the figures were taken down and dismantled. Had the wood been burnt out, the condition of the metal, and the white limestone eye of the statue, would have shown the effect of heat.

What we must admire as a masterpiece of technical and artistic skill is the hammering out of such a portrait head in beaten copper. The life-like vigour of the head could not have been exceeded in the most facile material, and it shows that in metal working, as in masonry, the Pyramid age had reached a perfection that has never been exceeded. The face and neck are worked in one piece; the hair was made separately, and then the two parts joined. The head is closely the size of the photograph here, the whole figure being two feet high. The thickness of the metal in the limbs is $\frac{1}{12}$th of an inch. Though the hands of the figures would be the most difficult part to work by beating, yet on examination there was no evidence that they were cast. The whole of the figures was wrought by the hammer. As one of the supreme pieces of metal working we give it here in the history of the metals in Egypt.

STELE OF RA-HESY. IIIrd DYNASTY.

WOOD. SAQQAREH. CAIRO MUSEUM.

BUST OF STATUETTE OF PRINCE MERENRA. VIth DYNASTY.
COPPER. HIERAKONPOLIS. CAIRO MUSEUM.

IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM.

ANCIENT EGYPT.

A CRETAN STATUETTE.

WE are enabled by the kindness of the Secretary of the Museum, Mr. B. J. Gilman, to present to our readers some pictures of the remarkable statuette which is now in the Art Museum at Boston, and was published in the Museum *Bulletin* for December, 1914. Beyond its presentation to the Museum, nothing is recorded as to its history. See the Frontispiece and Portraits at end.

The statuette is six and a half inches high, and is made of ivory with gold ornaments and details. The body is in two pieces, the join partly covered by the second flounce and its gold band; the arms were also made in separate pieces; the right arm, and the portion of the snake twisted round it, are a restoration, as is also the lower part of the dress on the right side.

COLOURED FAIENCE FIGURE, KNOSSOS.
HOLDING SNAKES.

WOODEN FIGURE, THEBES.
HOLDING SNAKES.

The resemblance of the figure to the famous Snake Goddess and her votaries, found by Sir Arthur Evans at Knossos, is obvious at first sight, and it cannot be doubted that we have before us a product of Cretan art. But the style of the figure, both in face and hands, is extraordinary, and differs in artistic character

from any representations of the human form hitherto found in Crete. The head, in particular, is quite unlike anything known to us in early Aegean or in classical art; it recalls rather the sculptures of Gothic cathedrals of the thirteenth century, such as Rheims and Bamberg, but that it looks more modern. Under these conditions the question of the genuineness of so remarkable a work must occur at first to any critic. But the possibility of modern forgery appears to be precluded by the materials and their condition; and there were no opportunities for any such imitations of Minoan art between the destruction of the palace at Knossos and its modern disinterment.

In pose, the statuette resembles the Snake Goddess of Knossos; but this resemblance only accentuates the essential difference between the two. The Knossian figure is stiff and conventional; the new ivory statuette is fresh and full of life, in the sway of the skirt and the poise of the waist, as she throws back her shoulders to balance the extended snakes. For the subject, beside the Cretan goddess, we may compare the figure, of uncertain origin, found in Egypt, and published in Quibell, *Ramesseum*, pl. III, 12. This figure, however, has no artistic connection with the Cretan. The two Cretan "votaries" brandish their snakes in the air.

The dress is of the well-known Cretan type. The flounced skirt resembles that of the Knossian "votaries," except that each flounce is brought down to a point in front, as in the Mycenaean seal-ring and other intaglios. Each flounce is bordered with edges of gold, ornamented with zig-zag or "figure-of-eight" designs. The gold girdle is of the hollow Cretan pattern. The surface is so much damaged about the shoulders that it is not easy to make out the jacket; doubtless it, as well as the skirt, was indicated in colour. The gold-bordered ends of the short sleeves still remain; the rest of the jacket was, doubtless, as in other Cretan figures, of the "zouave" or "eton" type, leaving the breasts bare, and fastened down the front below them by a broad gold clasp. The nipples are indicated by gold pins; and there are holes on the neck for the attachment of a necklace, and on the upper part of the skirt to attach gold pendants from the girdle, or perhaps, as suggested in the *Bulletin*, a gold apron.

The headdress is remarkable: it consists of a high crown, which rises at the front, at the back, and on each side into a high curve, pierced near its apex by a round hole. These holes may have served to fasten a gold ornament or plating; but from their size and shape they suggest a decorative purpose. Round the edge of the hair, above the forehead, are holes for the attachment of a gold wreath or diadem, or possibly of extra curls. The most remarkable piece of work in the whole is the face, with its life-like expression and its delicately modelled features. The eye is actually sunk into its proper depth below the brow—a method of treatment practically unknown to ancient art of any kind before the fourth century B.C. One has only to look at the staring eyes, flush with the face, in any early sculpture to see the difference. And not only does the eye recede from the brow, but the lower eyelid is set in from the upper, and the resultant shadowing of the eye socket adds greatly to the expression. The left hand also is beautifully and delicately modelled, with none of the exaggeration and distortion of the thumb which is common in Cretan as in Mesopotamian art. The snakes held in the hands are bent together from thin plates of gold.

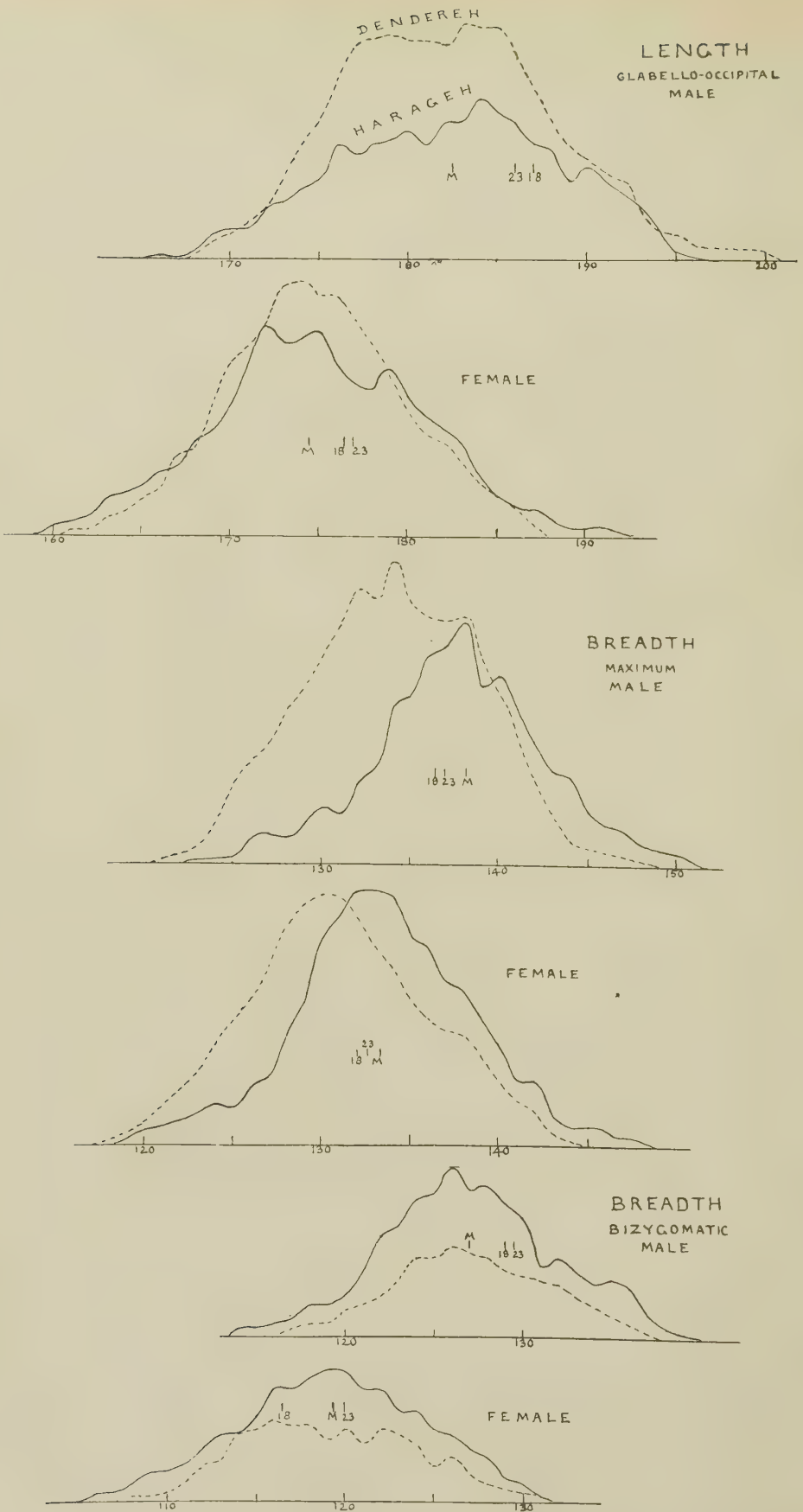
The gold and ivory statuette shows us for the first time a treatment of the human figure in Cretan art which is comparable in artistic excellence with the admirable studies of animals, which are of Cretan or Mycenaean origin. If

possible, it would be desirable to fix the period of so remarkable a work in the development of Cretan art. But here unfortunately the data fail us; so exceptional a work does not easily lend itself to comparison, and may be a freak of individual genius. The inferior style of the faience figures from Knossos, which date from the first period of the later palace, does not necessarily imply a later date, though they look like a degradation from such work as we see in this statuette. If it marks the high-water mark of Cretan sculpture, it might be placed not far from the high-water mark of Cretan pottery, and so go back to the Middle Minoan age; but such conjectures must remain for the present uncertain.

Head of the Ivory and Gold Statuette.
Thrice Actual Size.

The new discovery emphasises more than ever the contrast between the art of Crete and that of historic Hellas. The comparison made at the beginning of this article was not altogether fortuitous, for such Cretan work is really separated by a greater gap from the classical perfection of Greece than from the exuberant but undisciplined imagination of mediaeval or modern times.

Ernest A. Gardner.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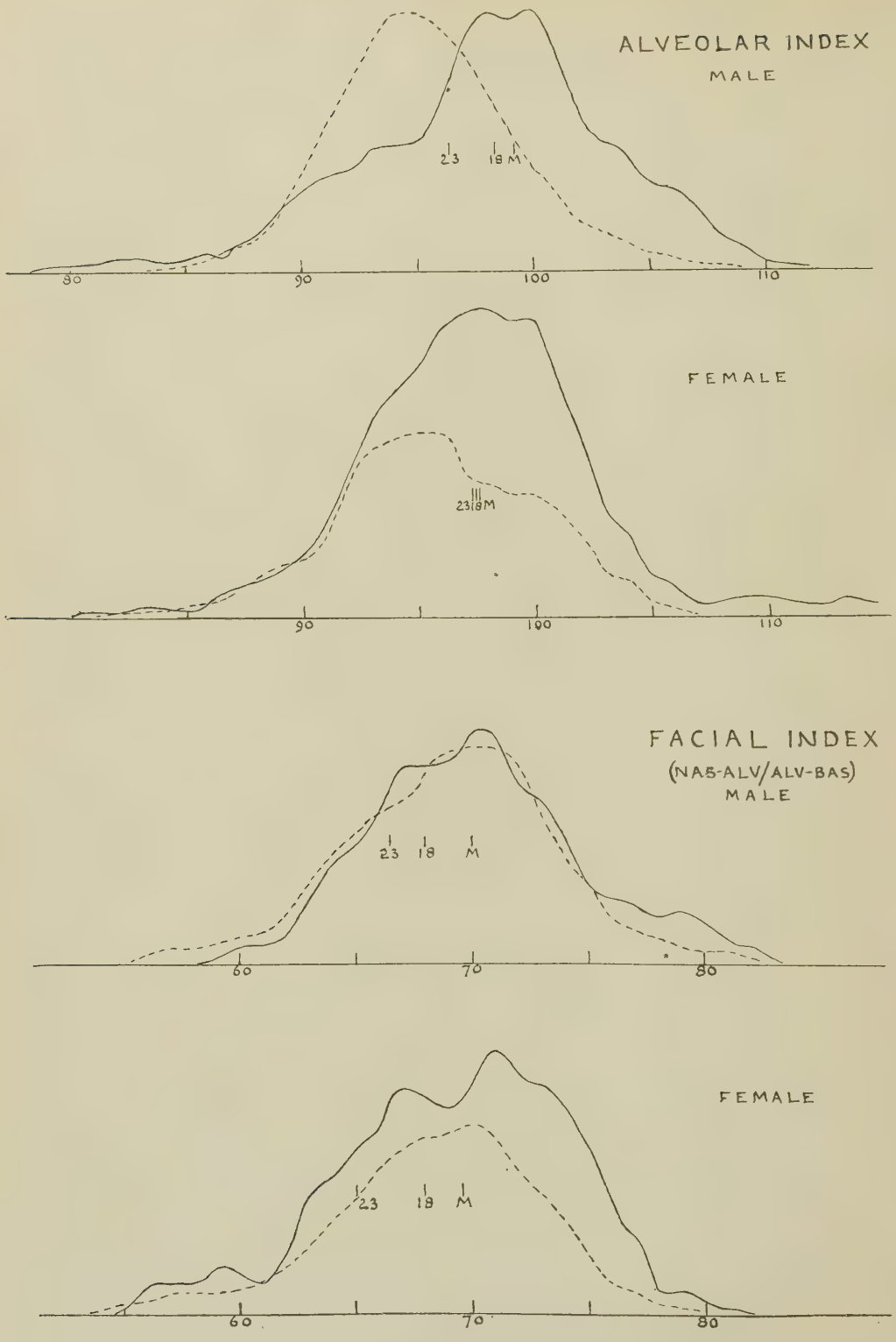
SKULLS OF THE XIITH DYNASTY.

In the course of the cemetery excavations at Harageh and Lahun last year, a large number of skulls were found, and I had joined the excavating camps in order to carry out the standard routine of measurements on the spot. Many skulls will not bear the risks of transit, and immediate measurements are free from any subsequent distortion, and therefore the more satisfactory. In all, there were measured 26 skulls before the XIIth dynasty—too few to give results by themselves; 113 male and 132 female skulls of the XIIth dynasty, beside 38 of uncertain sex; 16 male and 17 female skulls of the XVIIIth–XXth dynasties; 20 male and 17 female skulls of the XXIIIrd dynasty, besides a few of uncertain sex. The detailed measurements of all these will appear in the volume on Harageh, by Mr. Engelbach, which we cannot hope to see prepared till after the war. Meanwhile, the general results may be seen in the curves of distribution in the present account.

The following are the measurements taken in accordance with the International agreements for the unification of Craniometric and Cephalometric measurements :—

1. *Length*, maximum, antero-posterior; from Broca's glabella to the point on the supra-occipital part of the occipital bone.
2. *Breadth*, maximum; in a horizontal plane above the supra-mastoid crests.
3. *Breadth*, minimum, frontal; shortest horizontal diameter between the temporal crests on the frontal bone.
4. *Bizygomatic breadth;* maximum diameter between the external aspects of the two zygomatic arches.
5. *Height*, basi-bregmatic; between the basion (median point on anterior margin of foramen magnum), and bregma (median point of coronal suture).
6. *Naso-basilar* diameter; between the nasion and the basion.
7. *Alveo-basilar* diameter; between the prothion (mid point of anterior border of the alveolar arcade) and the basion.
8. *Naso-alveolar* diameter; between the nasion and the lowest point on the alveolar arcade between the two upper median incisor teeth.
9. *Naso-mental* diameter; between the nasion and the lower border of the mandible in the median plane.
10. *Orbital width;* between the dacryon (point of confluence of the sutures formed between the lachrymal and frontal bones, and the nasal process of the superior maxilla) and the outer margin of the orbital aperture, where it is crossed by a line drawn from the dacryon parallel to the upper and lower orbital margins.
11. *Orbital height;* between the upper and lower orbital margins, avoiding any notches that may be present; maximum vertical diameter perpendicular to the line of orbital width.
12. *Nasal height;* between the nasion, and below to the point in the median sagittal plane of the skull, on the line tangential to the two notches of the pyriform aperture of the nose. When the margins of these notches sink into grooves, then the level of the nasal floor has been taken.



13. *Nasal width;* maximum transverse diameter between the lateral margin of the apertura pyriformis nasi.
14. *Palatine vault,* width; at the level of the second molar teeth measured internally.

15. *Palatine vault*, length; between, in front, the point in a middle line and on a line tangential to the posterior surfaces of the median incisor teeth, and behind, the point in the middle line and in a line tangential to the deepest parts of the notches on the posterior palatine border.
16. *Circumference horizontal*, maximum; measured with a steel tape.
17. *Bigonial breadth;* between angles of the jaw on the external surfaces.
18. *Symphysial height*, in median plane; between highest point of alveolar border, and the inferior margin of the symphysis.
19. *Ascending ramus*, right; between lowest part of notch to lower margin of jaw.

WALTER AMSDEN.

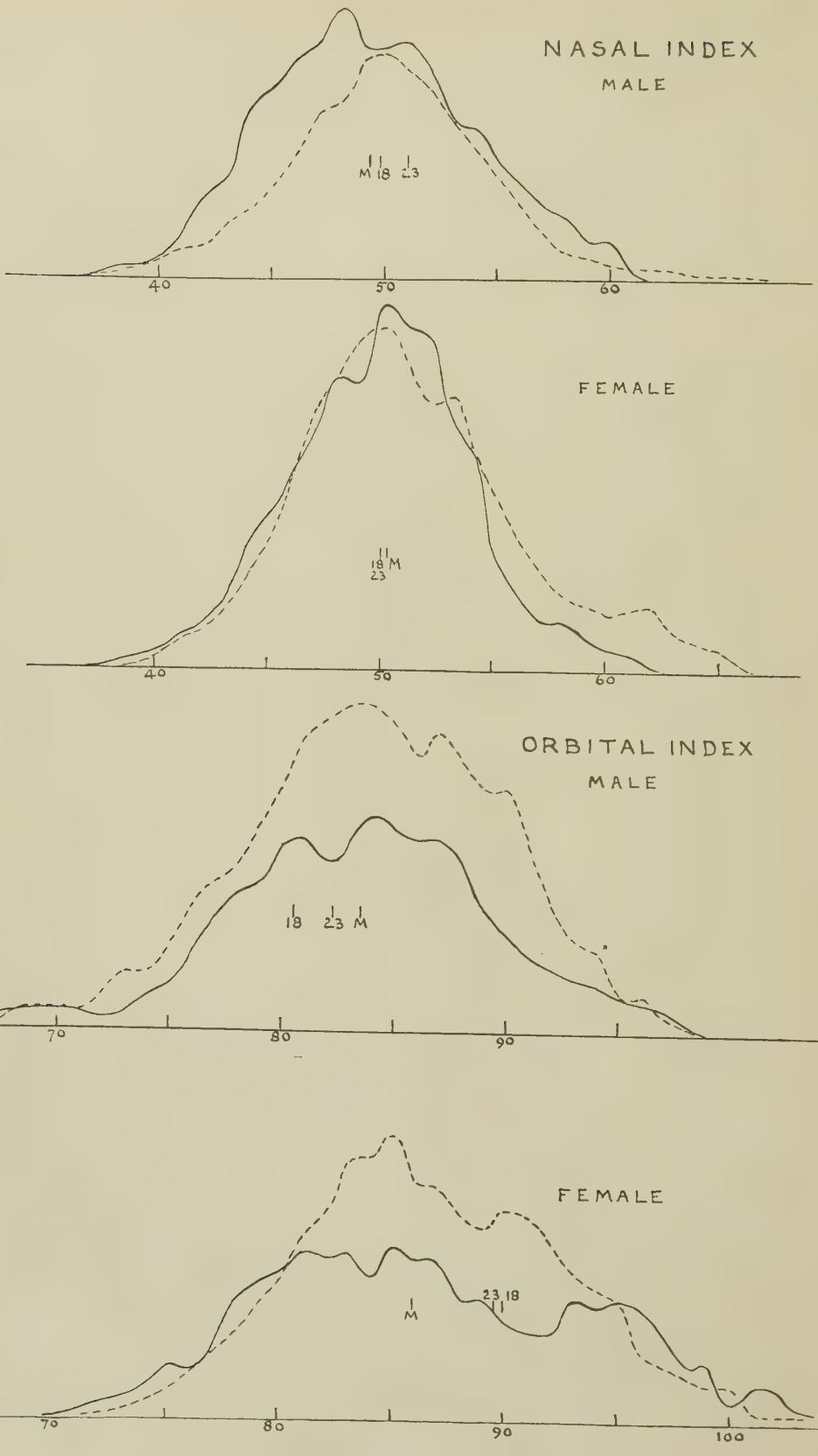
Unfortunately, the military duties of Dr. Amsden, as a Medical Officer, have prevented his reaping the harvest of results from the mass of about 6,000 measurements which he took and tabulated. Some brief notes are therefore added here to explain the three pages of diagrams, which show the more important points. To form these curves, the total number of examples in each group of five millimetres has been taken, at steps of every millimetre, in accordance with the system followed for the Tarkhan skulls. The length and two breadths are shown as directly measured; but for the other dimensions, indices have been extracted, as the only other series of the same age—from Dendereh—has only been published by indices, and this is therefore the only way to compare results of the two sites.

In all these diagrams the male and female curves are separate. The full line is the result of the present work; the letter M shows the median point of that curve. The points 18 and 23 are the medians of the groups of the XVIIIth and XXIIIrd dynasties from the same district. The dotted curve is that of the XIIth dynasty skulls from Dendereh. The interest in comparing these is to see whether the foreign invasions between the VIth and XIIth dynasties had left any distinct mark on the more northern people of Lahun compared with the people 260 miles further up the valley at Dendereh. Some day we may hope to see put together a complete view of the changes in the Egyptians in all periods and districts.

On comparing results, it is seen that, in length, the XIIth dynasty was the age of the shortest skulls, equally at Riqqeh and Dendereh. In the 1st dynasty they were even longer than in the XVIIIth, male and female alike. In breadth there was very little difference, the Ist dynasty being like the XVIIIth. So far from any local influence appearing, the northern and southern are alike in length, and differ from all other periods, in the north, but continue nearly the same at Dendereh in Roman times. There is no trace of an invading influence being greater in the north than in the south. The Bizygomatic breadth similarly shows the unity of north and south, and differences in later periods.

In the Alveolar index the south (dotted) is more upright in profile than the north, orthognathic south, mesognathic north. The Facial index (height of faces) north and south agree in a tall face, later periods showing a shorter face. In the proportions of the nose there is no notable variation. The eye also is alike in north and south, but in later times the men's eyes became longer and the women's eyes rounder. Altogether the evidence is that the Egyptian people were unified in Middle and Upper Egypt in the Middle Kingdom age, but they were clearly different in both earlier and later periods.

W. M. F. PETRIE.


NASAL INDEX
MALE
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FEMALE
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ORBITAL INDEX
MALE
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ALEXANDRIAN ARCHAEOLOGY.

DR. BRECCIA, the Director of the Alexandria Museum, has issued his report of the antiquities added to its collections during 1913. This year was a special one because, with the object of augmenting the relics of Graeco-Roman times, illustrating the most flourishing period of Alexandria's prosperity, the municipality defrayed the cost of excavations upon the site of the ancient town of Theadelphia, in the Fayoum. This place was selected because, in 1912, the fellahin had there disinterred the doorway and pylons of a temple dedicated to the Crocodile-god Pnepheros. This was evidently the edifice for which a long Greek inscription, published by M. Lefebvre in 1908, set forth the grant to it of the privilege of Asylum.

The temple was buried beneath great accumulations of sand, and was of considerable size, but Dr. Breccia has completely uncovered it, and in so doing made some remarkable discoveries. It was constructed of crude bricks and limestone, and oriented to the north.

Upon a large stone above the entrance doorway an important inscription, dated in the thirty-fourth year of Ptolemy Euergetes, *i.e.*, 137 B.C., stated that the pylons and stone vestibule had been dedicated to the deity Pnepheros, in honour of King Ptolemy and his consort Cleopatra and their children, by a certain Agathodorus of Alexandria and his wife Isidora.

Two crouching lions, sculptured each from a single block, guarded the entrance which led into a large court, having many doorways at the sides leading into various chambers. In several places in the walls were rectangular niches, and in these had been painted frescoes, almost all destroyed. One, however, shows a procession of Pnepheros. He appears as a mummified crocodile, wearing a crown on his head, and is placed on a sort of barrow, or litter. The priests march between others bearing palms and flowers, and some walk in front of the bearers.

The first court has an exit into a smaller one, and on each side of this are stone sphinxes. Upon one side is a column, still showing the brackets for supporting torches, to illuminate functions held at night. This column bears an interesting inscription stating that it was erected in honour of Ptolemy (X) and Cleopatra (III) by the guild of the Chenoboskoi, or breeders of the waterfowl, which doubtless abounded in Lake Moeris and the many canals then existing in the Fayoum. Another pylon gives access to a still smaller court, and in it fortunately was found the litter for carrying the deity. It was in perfect preservation; also the platform in sculptured wood used for its stand, and a fine crocodile mummy. Upon one of the pylons, which had been covered with stucco, a scene is painted depicting a military officer standing beside his charger. He is represented with the full army equipment of a warrior, wearing a cuirass, with Gorgoneion ornament, and a rich mantle. One hand holds a spear, and the other reaches forward to offer incense towards a small altar. The head bears a crown, and above his horse a winged Victory flies, as if to present another coronet to the soldier. A most valuable detail is that the head is surrounded by a radiated

nimbus, identical with those depicted around the heads of apostles and saints by primitive Christian artists. This discovery tends to show that the origin of this symbol, like many others of early Christian iconography, may be traced to Egypt. Beside the warrior is a text giving his name—Hero Sonbattos.

Upon the other pylon a mounted soldier is painted, but the figure is much damaged; he also has the same style of nimbus, a tree with a serpent coiled around it is visible, and a marching soldier bearing an ensign, like a double axe. Beside him appears a mummified crocodile ornamented with the insignia of Pnepheros.

From the third court Dr. Breccia made his way into the deity's chapel. The walls of wood and brick had been decorated with figures of human bodies with animals' heads. Another room was almost filled by an altar, which has been removed to Alexandria. The description of it is too long for repetition here, and awaits the assistance of a photographic representation. It will be a most important relic for illustrating the pagan cult of Pnepheros as carried on from about 140 B.C. to A.D. 170, the period for which inscriptions vouch for the continuance of worship at this temple at Theadelphia.

Turned face downwards among the ruins of a neighbouring house, Dr. Breccia found a Greek inscription of as many as fifty-three lines. It is dated in the twelfth year of Ptolemy XIII, Neos Dionysus, and his queen, Cleopatra Tryphena, about 69 B.C. It contains a decree awarding the right of Asylum to the temples of Hercules and of Isis at Theadelphia. Its utilisation for the floor of a house precludes the hope that its resting place is the site of either of the shrines its text concerns, but no doubt proper search would succeed in finding them at Theadelphia.

This inscription, with the exception of the longer Greek versions of the trilingual records of the Rosetta Stone, and Decree of Canopus, is probably the longest Greek text yet found in Egypt.

The report gives a summary of discoveries at Alexandria, chiefly those at the long three-galleried catacombs found in 1912 near the Ras et-Tin Palace. The mummies therein were much deteriorated by moisture, but many of the face and breast masks, with most interesting decorations, have been rescued from further destruction. The burials date from the commencement of our era.

JOSEPH OFFORD.

THE STONE AGE IN EGYPT.

VARIOUS isolated papers have appeared from time to time dealing with wrought flints found in Egypt at one locality or another, without placing the material in direct connection with that of other periods or other countries. It seems time now to attempt some co-ordination, as lately the subject has been hindered by our not being able to recognise what is critical and needing observation among the vast quantity of material available. We cannot attempt in a journal to deal exhaustively with even one branch of the subject; our object rather must be to give an outline showing the relation of the various parts, and dealing only with obvious types. For a full and definitive study of any of the periods, the first requisite is a regular search for evidence at first hand in Egypt. That has never been undertaken, except for a few weeks of surface collecting by Mr. Montague Porch, in which I specially requested him to record the level (by aneroid over the Nile plain) and the locality of every specimen. Stratigraphical search in the gravels is urgently needed to obtain material connected with the physical changes of the country.

Here we shall only notice the most definite types, especially those related to the European types. There are also a great number of irregular forms, which might be grouped into classes; but it would be much more satisfactory to do that after some collecting has been done from definite horizons of the gravels. The material here dealt with is that which I have collected at University College; after weeding out duplicates, that comprises about 300 selected palaeoliths, 300 Solutrean from the Fayum (chosen from many thousands), 100 from early settlements, and 300 from the prehistoric graves with relative dating.

10A EARLY CHELLEAN PICK.

Flint working—like each of the arts—began with archaic ages which blossomed into the grand style of the magnificent, massive, symmetrical forms of the Chellean (Fig. 10A) and Acheulean periods.[1] Nothing made since has ever equalled the satisfying magnificence of these types, with their bold large flaking, producing

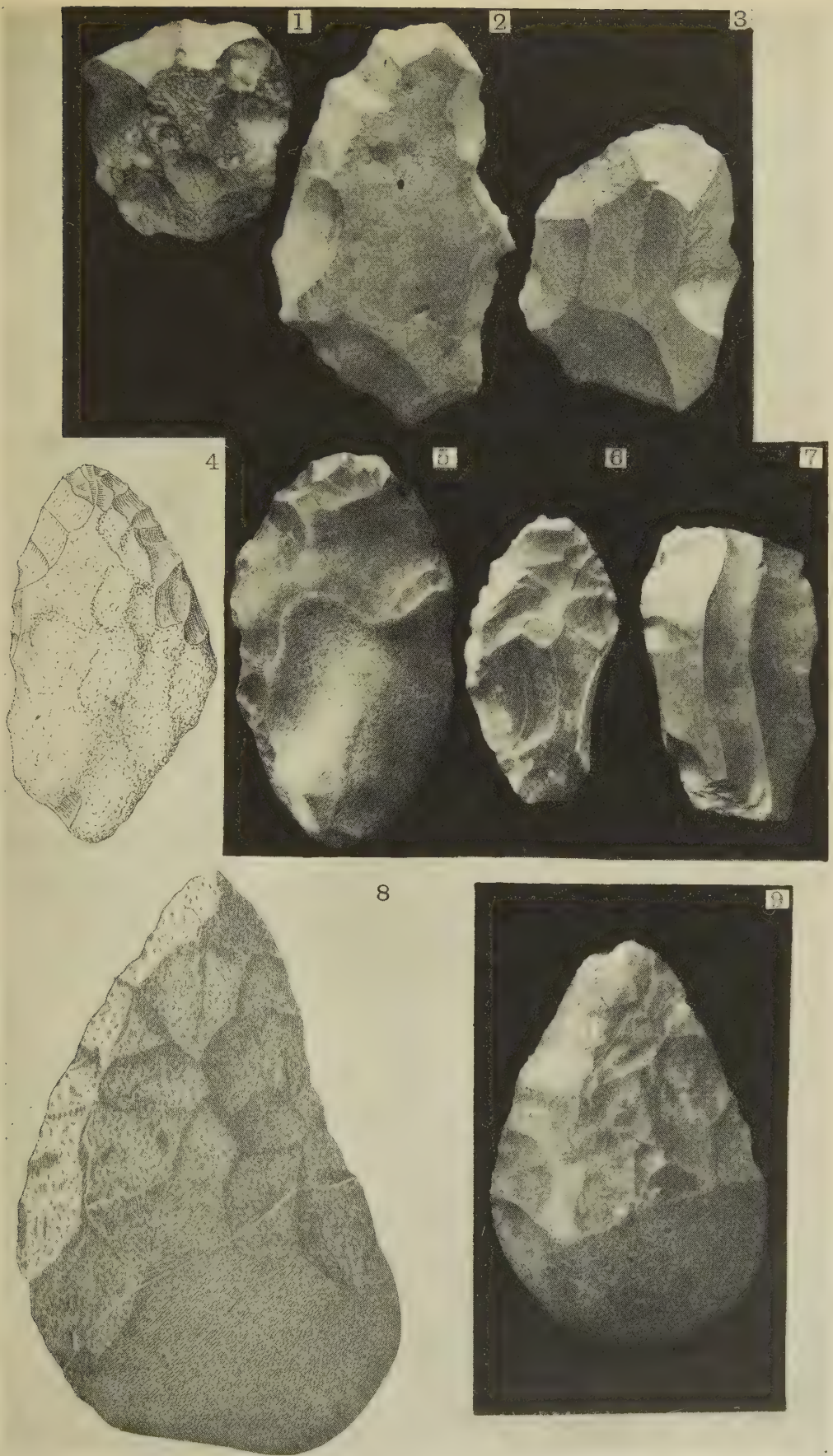
[1] As this article is intended for readers not familiar with recent geology, the series of terms for periods of work are here added. *Early*, Mesvinian, Strepyan, Chellean, Acheulean, Mousterian, Aurignacian, Solutrean, Magdalenian, *Late*.

real works of art. The miserable poverty and rudeness of the Mousterian and Aurignacian ages reflect the overthrow which European man suffered in the third Glacial period, when life was a struggle in chilly islands isolated by high sea levels. The only later age of supreme work is that bordering on the use of metals, when the mechanical art of ripple-flaking rose to its highest perfection in Egypt and in Denmark. But—marvellous as that was—it never reached the supreme quality of the early work in producing perfect forms by large handling, like a detailed picture produced by the skilful use of a large brush.

A broad distinction must always be observed between the characteristics produced by mere necessity, and those due to aesthetic feeling—the utility types and the artistic types. Though they merge together, yet they need to be distinguished as far as possible, because they separate between forms which may be expected to recur, and types which may be expected to be distinctive of a period. Mere necessity will produce similar results in many cases; the Mousterian and Aurignacian edge-chipping, for instance, is much of it like that produced by a habit of scraping different materials. On now using old flakes with clean edges to scrape bone, leather, hard wood, pottery, etc., chipped edges are produced exactly like many ancient examples. Such an edge may be distinctive of date in one country, because certain materials may have been usual at one period. But such details are useless in comparison between countries, as materials may be usual in one land at one time, in another land at another time. So in Egypt this utility form of chipping occurs commonly in the prehistoric graves which are certainly after the Solutrean period.

The case is quite different when we touch on artistic taste. The fine regular forms do not recur in different ages of any one country; and there was nothing to lead man to re-adopt particular curves or styles which were no better than others for any practical purpose. In these cases we must give credit to style as a prime indication, to be accepted unless contradicted by definite evidence of stratification, or association with organisms. There might be a hesitation about types being the same in lands so far apart. But if we grant that a style might travel from hand to hand five miles in a year, it may travel all over a continent in a thousand years; and that is a mere fraction of the extent of period of any of the great styles of stone working.

For comparison with European types, the examples are here taken from the illustrations of the *Musée Préhistorique*, 1881, drawn by Prof. Adrien de Mortillet, whom I have to thank for most cordially allowing the use of them here. References are given with the letter M., and the number of the illustration. Other figures are from *Die Diluviale Vorzeit Deutschlands*, by R. R. Schmidt, 1912. For the use of these I could not ask the author's permission, owing to the present war; but as in the most original and important part of his work, there is the statement that reproduction or extracts are only permitted with statement of the source, it is hoped that with this acknowledgment the use of some twenty figures here for purpose of comparison, may not be thought objectionable. References are given with the letter S. and *Fig.* for text blocks, Roman numerals for plates. The specially German material of Schmidt is less comparable with Egyptian forms than is the French material given by him and Mortillet. The German types are generally much less finished, and the great Chellean stage so largely developed in Egypt does not appear at all in Central Europe. All objects and book illustrations here are reduced uniformly to half the size of the actual objects, excepting Nos. 21, 23 and 25, which are slightly more reduced.



1–3 Mesvinian? 4, 5 Strepyan? 8, 9 Early Chellean.

In studying this subject we must first place the Egyptian examples side by side with the European, to see the similarity of form. Then, if no other facts disagree, we cannot do otherwise than assign the types in Egypt to the same general period as those types in Europe. This will give a provisional classification of most of the Egyptian examples, and a basis for future study to confirm or disprove the history thus suggested. Further may be stated here the evidences for alterations of sea level in Egypt, the possible relations to similar changes of level in Palestine, at Gibraltar, and in the west of Europe, and the implied connection of types of flint work with those changes in Egypt. Thus there will be a definite ground for future research in Egypt, showing what are the critical observations needed to define the facts more certainly. It is impossible to advance any subject without knowing whether each detail is merely a useless repetition of what is well known, or is valuable as a contradiction or corroboration of what is supposed.

It need hardly be said that the conditions in Egypt are very different from those in any European ground. The flints lost on the surface lie on the rocky desert plateau as they fell, not covered by any bed of humus. Whatever soil may have there supported vegetation during less dry periods has been completely denuded away by the arid blast. Hitherto this denuded plateau has been almost the only gathering ground for worked flints; very few sections have been searched, and none of the gravels have been dug through and the material examined.

Figs. 1–3.—The first three illustrations show a class of flint of the rudest type; naturally thin worn pebbles, half an inch to an inch thick, have been selected, and trimmed by striking flakes off from each edge, so leaving a jagged, wavy, cutting edge. So rude are these that they might belong to any age of degradation; and as they are all found about twenty feet over the plain on the low ground at Lahun, their source proves nothing. Fig. 1 is much water-worn, showing that it is older than the last high-water age, or pre-Aurignacian. Figs. 2 and 3 are quite sharp, but that need only imply that they were buried until recent times. As the style most nearly resembles the Mesvinian of Rutot (*see* S., Figs. 35, 37), these may provisionally be assigned to that late eolithic age.

Figs. 5, 6, 7, are from a bed of gravel at the foot of the cliffs at Naqadeh, found undisturbed at 2, 3 and 5 feet down, respectively. This gravel is about 20 feet above the present Nile plain; and as the bed of the Nile has risen some 20 or 30 feet by deposits in civilised ages, this bed of gravel cannot be later than the high water of pre-Aurignacian times. The type of 5 is not unlike 4, which is the Strepyan type of Rutot (S., 39); a natural thin pebble chipped to a moderately even edge. But the amount of regularity of 6, and the long flakes of 7, show that the gravel is probably Mousterian; and No. 5 may be an older work, re-deposited in later times.

Fig. 9 is a partially formed implement of the Chellean type, the butt end being left in the natural pebble condition; it is closely parallel to European types, such as one from Toulouse, Fig. 8 (M., 42). This borders on the pre-Chellean type (as S., Fig 22), akin to Fig 5 above, in which the rounded natural surface is left where an edge is not needed. It seems as if this would be far more convenient to hold than an entirely chipped surface; it is therefore a question whether the chipping of the butt, as in the succeeding types, is not due to an artistic feeling, like that of later times when smooth-ground blades were subsequently ripple-flaked solely for the sake of appearance. It may be that the all-chipped butts are the

11

13

10–14 Mid Chellean.

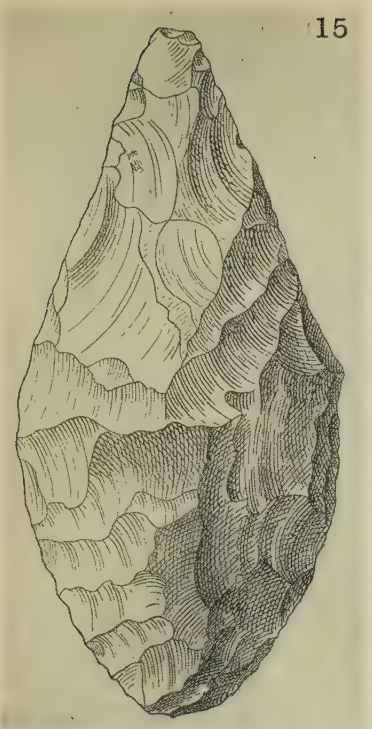
earliest known sacrifice of convenience to appearance. The example 9 is of brown flint, quite fresh and unaltered, without the slightest rounding. It was found at Nile level in the mouth of a small valley near El-Amrah, and must have been buried until recent times.

The regular types of Chellean work are given in 11 and 13 (S., Figs. 25, 24), comparable with 10, 12, 14 from Egypt. These are boldly worked with large flaking, which is exactly chosen so as to need but little chipping or trimming. No. 10 was found at Erment at 210 metres over plain, or about 940 feet above present sea level. No. 12 lay on a spur of the cliff between Dendereh and Naqadeh, 800 feet over plain, or 1,030 feet above sea. No. 14 was found by Mr. Seton-Karr at a low level, at El-Ga'areh, S.E. of Dendereh. The two above have the dark brown colouring of the plateau; the lower is a honey flint partly whitened. Similar types to the last were found, much water worn at a low level north of Naqadeh, and quite white and porous at Thebes.

The early Acheulean style, 15, 17, 19 (back of 17), is coarser, and seems to show a decay of the previous style (S., Fig. 29, xxvii, 1). It is closely paralleled by 16, 18 and 20. No. 16 is from the Valley of the King's Tombs at Thebes, at 240 metres over the plain, or 1,040 feet above sea. It is moderately water worn, showing that the sea has been above that level since it was made. The other examples, 18, 20, are from a class of similarly rude work, some partly water worn, which have been found in various low levels between Abydos and Thebes. They are not very distinctive; but their rolled condition shows that they are pre-Aurignacian, and they do not agree to any of the well-developed types, so it is most likely that they should go with the similar early Acheulean of Europe.

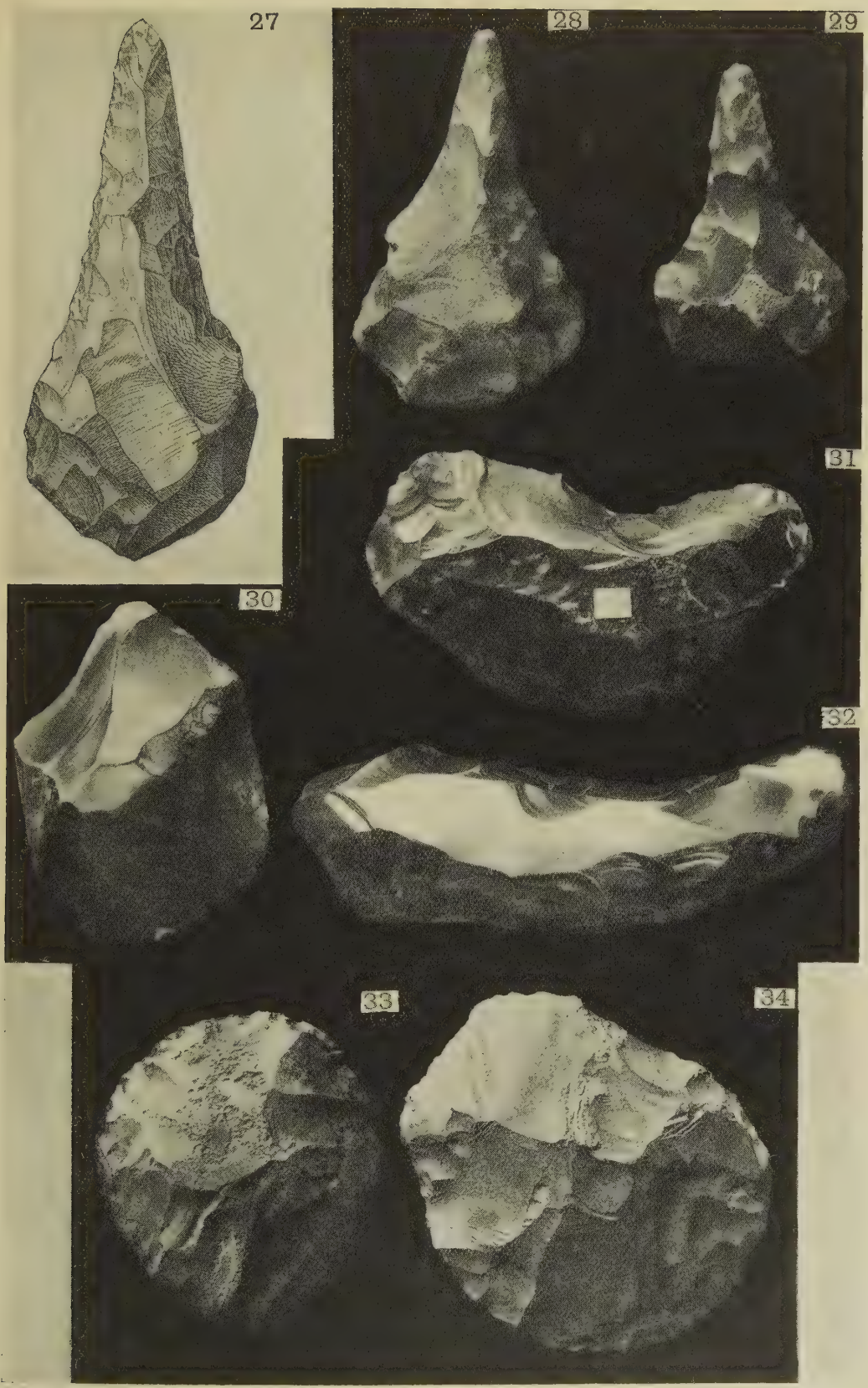
The regular Acheulean types of the massive ovoid 21, the pick with very large coarse flaking 23, and the badly dressed pick 25, are all paralleled in Egypt. These three types are assigned to the early middle and late Acheulean respectively (S., Figs. 27, 30, 32). Other authorities would space them further apart, putting 22 as late Chellean, and 25 as early Mousterian, and also put back 22 and 24 into the Chellean age. These figures are a tenth smaller than all the rest here, being 1 : 2·2 instead of 1 : 2. The heavy ovoid 22 is from Erment, at 200 metres over plain, or 900 feet over sea; and a larger and thicker one is from the Valley of the King's Tombs at Thebes. No. 24, from the low plain, 5 miles north of Naqadeh, is much water worn, yet it shows the very coarse large flaking like the European. No. 26 is feebly worked with poor flaking; it comes from a low level at Dendereh.

A very marked form of Acheulean period is the narrow pick 27 (M., 27); and this is even more marked in two Egyptian examples, 28 and 29, which have been discoloured in gravels, but not perceptibly water worn. The purpose of these was probably the same as that of the other great palaeoliths, for breaking up the soil in search of edible roots. Such is the only kind of work suited for the pointed pick (otherwise called "hand-axe," *coup-de-poing*, or *faustel*); and this narrower pick would be fit for a harder, more clayey, soil. The earliest great picks, like crowbars of flint, from the base of the Crag, would be exactly suited to earth-smashing; and the only position in which the hands can well grasp them is with the point toward the holder. To use the ordinary pick (hand-axe) for cutting wood is almost impossible; the edge would neither slice nor saw wood, and the pointed form would never allow of striking a blow at a branch, and cutting like an axe or adze. Fig. 30 we shall notice with the next page.



15–20 Early Acheulean.

21, 22 Early—, 23, 24 Mid—, 25, 26 Late Acheulean.



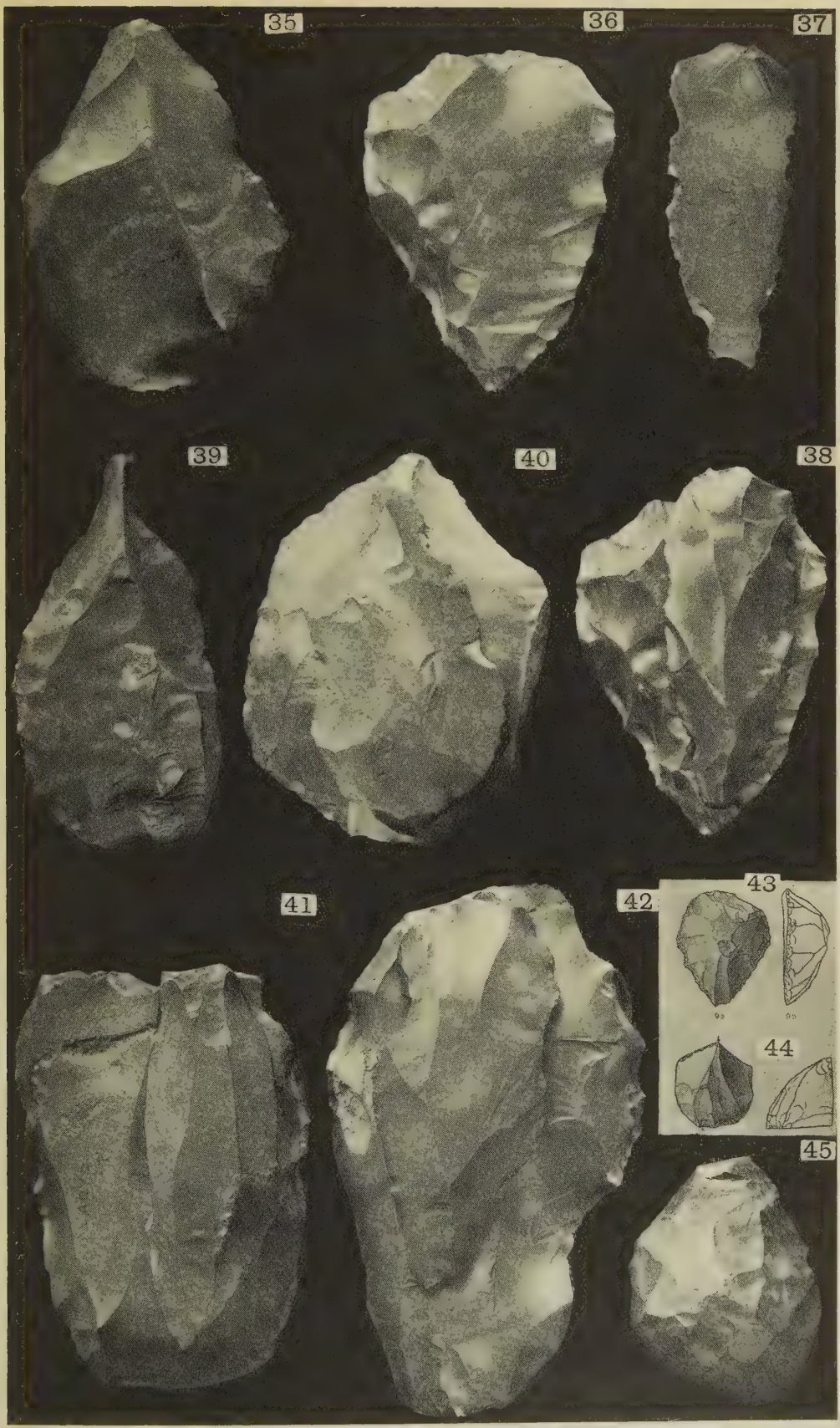
27–29 Acheulean. 30 Hoof. 31, 32 Lunate. 33, 34 Disc Flints.

31 and 32 are two lunate forms that are certainly early, from their condition. 31 is from the Valley of King's Tombs at 230 metres, or 1,000 feet over sea; it is deeply stained dark brown by exposure. 32 is of a beautiful fawn-coloured flint on the flat under side; on the upper side stained a deep brown, except where the white crust remains. These seem as if intended for scraping over wide curves, as in removing bark from trees. Narrower scrapers of well-defined form are found also of early period, as these (32 A, B) from Erment, found at 200 metres, or 900 feet over sea. They are stained a very deep brown by exposure. Their curves would be suited for scraping poles of 3 or 4 inches thickness.

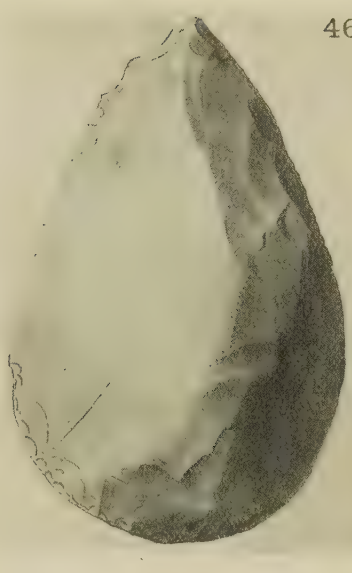
33 and 34 are examples of a type which is commoner in Egypt than in Europe, where it belongs to late Acheulean times; it is also very usual in South Africa, together with the flakes (as 35, 37, 39), the thin flat Chellean forms, and the small thick oval flints (54, 55), all of which are recognised by Mr. Mennell as being common in Africa. These disc flints in the best formed examples are equally sharp all round, and convex on both faces. It seems likely that they were used for hurling at animals, a purpose which may probably be the origin of the Greek *diskos* and modern quoits. They are found 1,500 feet up at Thebes (No. 33), and at various sites northward to Abydos.

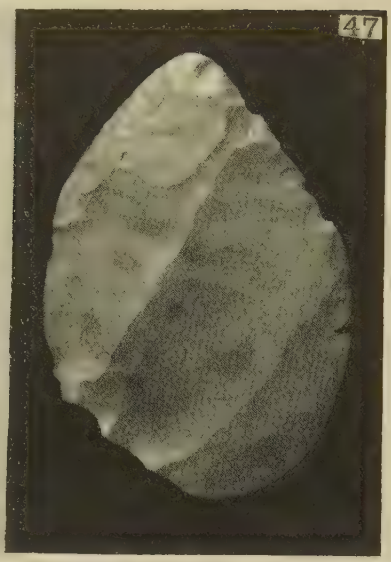
32 A, B, Concave Scrapers.

The largest class of Egyptian flints is that of the flakes, as 35, 37, 39, which are found in great quantities on the high plateau. Another considerable class is that of the thick domed flints, as 30 and 45, which are usually deeper than half of the breadth. This type is called by the Egyptians *dufr el-homar*, "donkey's hoof," and may well be termed the hoof type. No connection had been observed between the hoofs and the flakes until Mr. Reginald Smith showed me the Northfleet flints—large blocks trimmed around, in order to strike off a thin sharp-edged implement from the flat side. On examining the hoofs this did not seem at first to be a parallel case, as they do not show a single wide flake face. But on comparing the flakes with the hoofs the connection became evident. No. 36 is the flat side of a hoof (Thebes), 37 is a flake (Naqadeh) which is closely alike in form; on superposing them, in 38, it is seen how nearly the planes of the flake lie in line with the planes of the hoof. Similarly on placing flakes upon the largest flat face of the hoof in Nos. 40, 41, 42, it will be seen that—though none really belong—the character of the planes on the flakes closely agree with the planes on the hoofs. The long narrow end to flake 39 is seen to be exactly what must have come off



35–45 Hoof Flints and Flakes struck from them.





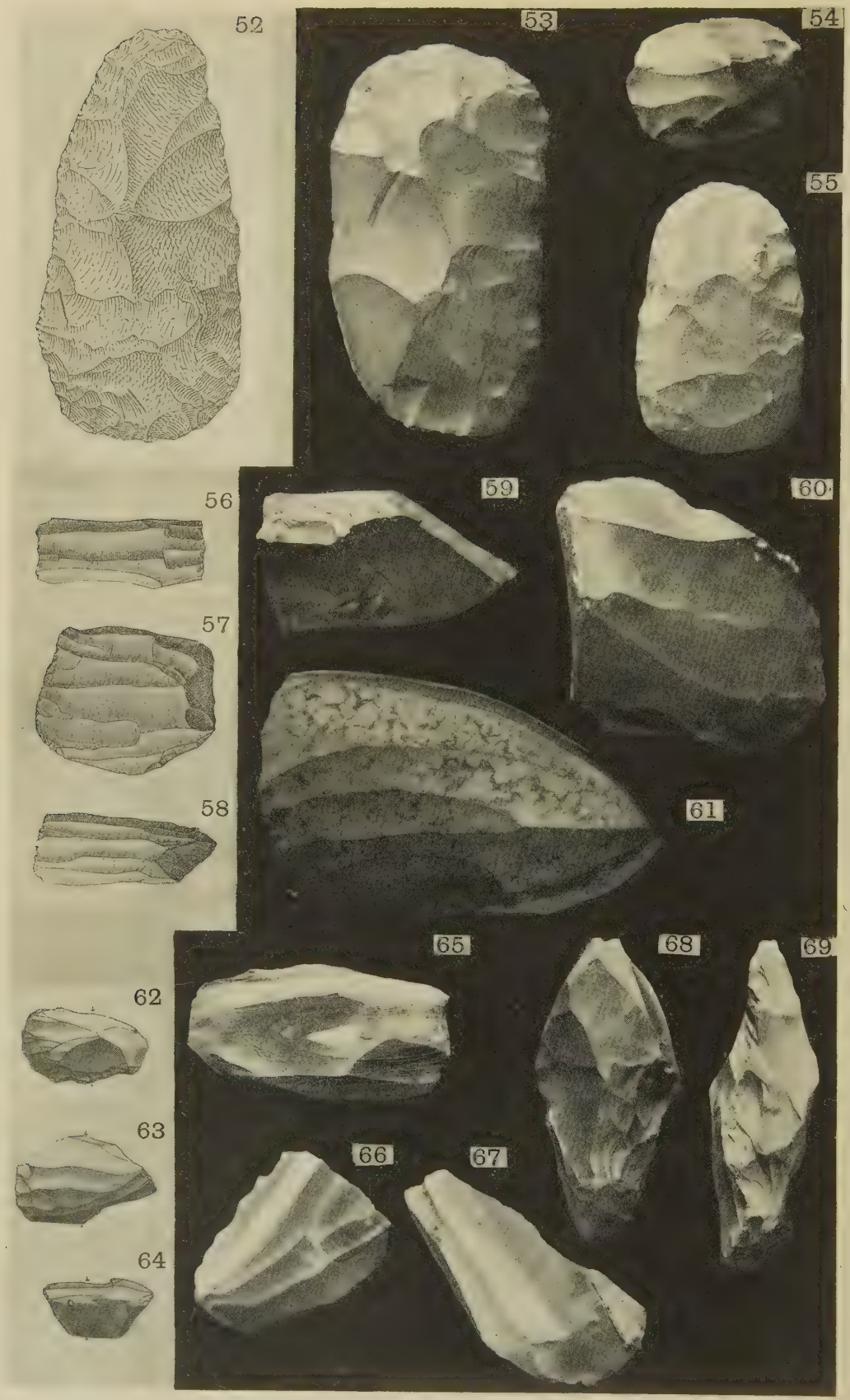
46, 47 Late Acheulean. 48, 49 Early— ; 50, 51 Mid Mousterian.

hoof 40. No. 45 is a very deep hoof, the thickness of which is two-thirds of the width. Flints of similar character are found of the Aurignacian period in Europe, compare 30 with 43 and 44 (S., xxxiii, 9, 10); but they are much smaller and used for scrapers, as will be seen by the figures, reduced to the same scale of one-half the object. The deep staining on the flakes and hoofs shows that they cannot be dated as late as Aurignacian times, and the system may perhaps be of the same age as the Northfleet blocks, mid or late Mousterian. The sites of the examples here are from Thebes to Abydos, and the flake of 41 as far north as Sohag. Most of the flakes come from the high plateau 800 to 1,400 feet up (1,000–1,600 feet over sea); the blocks have often been found at lower levels.

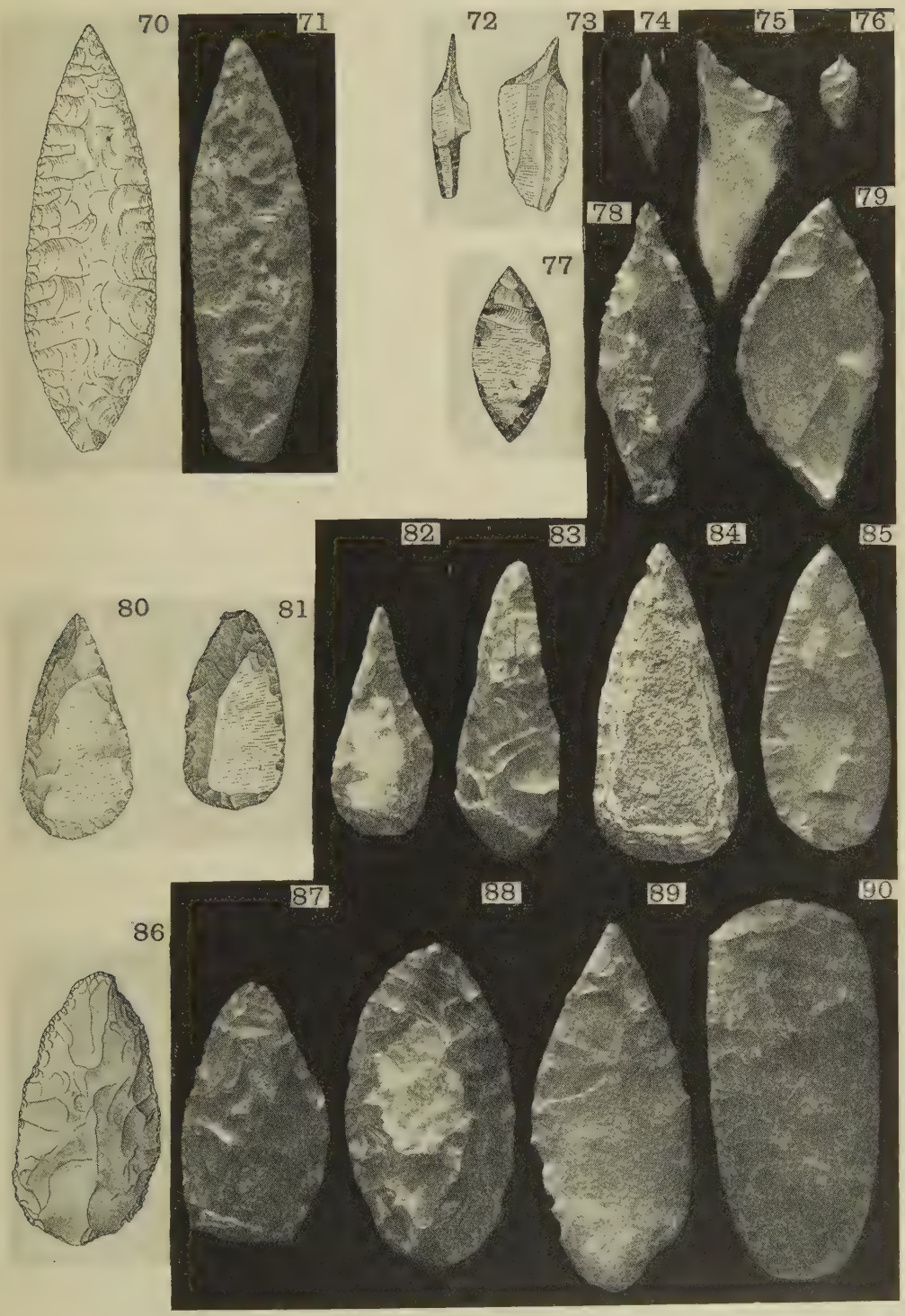
The next European examples are, 46 late Acheulean to Mousterian, 48 early Mousterian, 50 mid Mousterian. These forms are pretty closely equal to the Egyptian form placed opposite to each. No. 47 has a single-face back struck with one blow, as also is the parallel 46. It was found on the low desert 8 miles south of Semaineh. No. 49 is a pale fawn surface flint, found 4 miles south of Marashdeh. No. 51 is light brown, of a type found on either side of Dendereh. The much lesser amount of brown coating on 49 and 51 seems to mark a more recent age than the Chellean and Acheulean, which are dark brown in general, if they have been exposed. None of the following flints have more than a pale brown or fawn colour, only about a tenth of the depth of the coat on the early palaeoliths.

A large class of flints are the ovoids, as Nos. 53–55. These are found in a settlement at Naqadeh on the desert slope about 30 feet over the Nile; the site is marked by a hollow sound on walking over it, due to the large proportion of ashes in the ground. At the time when these were found it was supposed that they belonged to the same people as were buried in the adjacent cemetery of the prehistoric Egyptian civilisation. It was noticed at the time that this type was never found in the graves, nor were the types in the graves ever found in the settlement, but only some scraps of the grave pottery. As since then thousands of prehistoric graves have been recorded, and never any of these flints in them, it is evident that they belong to some period before the age of the cemeteries, that is to say, before about 8000 B.C. Yet the settlement was formed since the cessation of rainfall and retreat of the water level; for had it been long submerged it would have become solidified and not have had loose, dusty, resounding soil. The type is paralleled by a Spanish flint from Calvados, 52 (M., 419), which does not seem to be dated, but it most suggests the early Aurignacian age. There is no proof that the retreat of the water level might not have been, say, 50,000 years ago, and the settlement of that age, perhaps contemporary with the European Aurignacian; but I should not expect it to be of half that age. The form is so unhandy for nearly all purposes, that it is hardly likely to be invented in very different times.

Cores have been formed in all ages when flakes were required, and have therefore a wide range in all the later periods. Examples of French forms are given here in 56, 57, 58 (from Landes and Pontleroy, M., 252, 246, 247), and such are also known in Egypt. The thick prismatic core, flaked on all sides, Fig. 59, was found at Quft. Oblique cores, as 60, are specially Egyptian: this example is from Thebes, about 60 feet over plain. 61 is partly oblique, from a prehistoric grave; a similar core was found at Sohag, 600 feet over plain. From their forms they might be supposed to be Magdalenian, but 60 is considerably browned with age. Another type of core is acutely underhung, Nos. 65–67, the flaking planes being at only half a right angle to the striking plane. This angle is seen in the late Aurignacian scrapers in Europe, as 62, 63, 64 (S., vii, 11, 8, 9).



52–55 Aurignacian? 56–67 Cores. 68, 69 Wedge Forms.



70-90 SOLUTREAN.

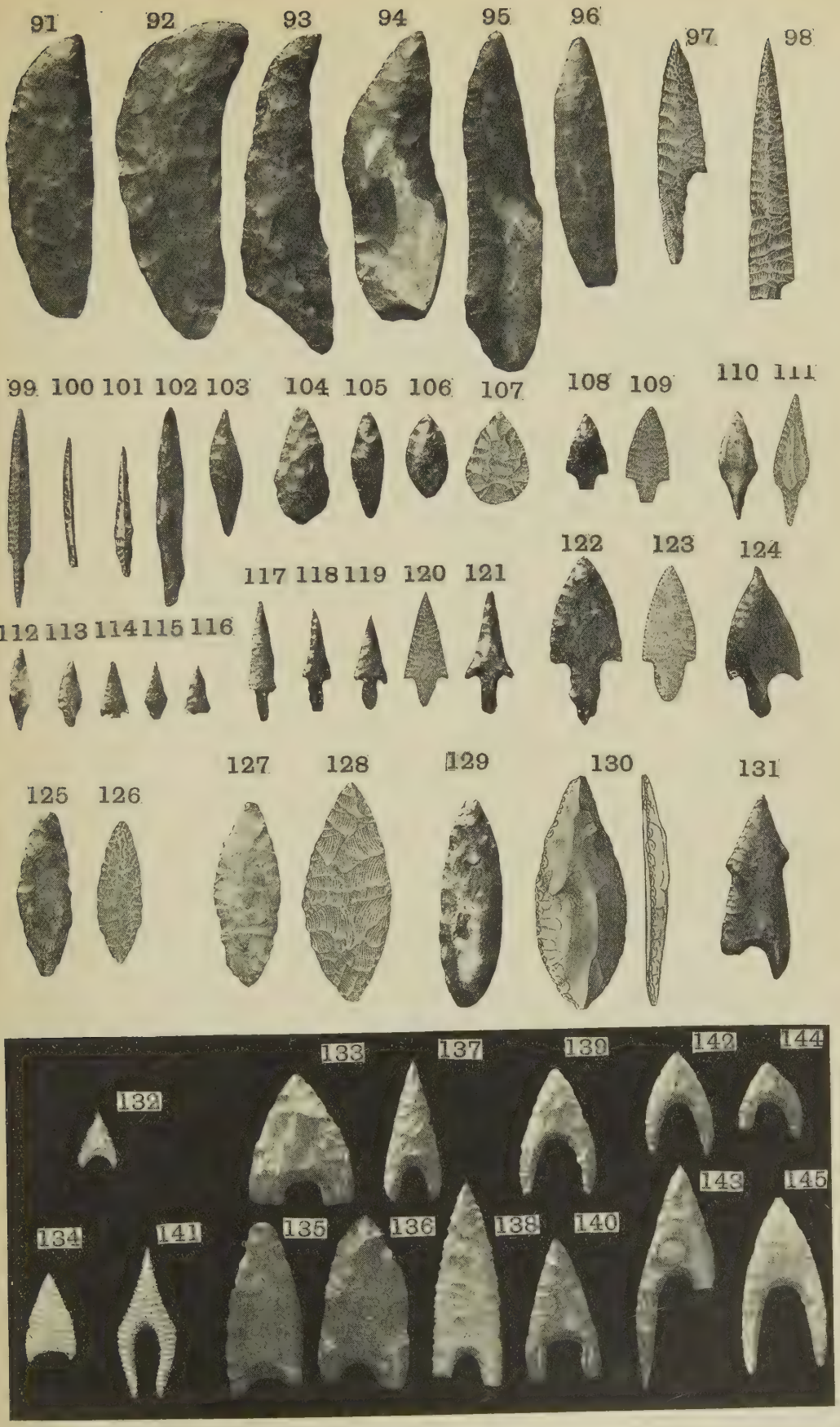
A strange wedge-shaped type 68, 69, belongs to the age of the ovoid flints, 53–55, as 68 was found in the settlement with those. The purpose of it is not clear, as it would neither cut, scrape, nor dig.

We now reach one of the clearest stages in the Egyptian series, that of the Fayum flints, found at Dimeh and other sites to the west of the Lake. Here, unhappily, as to records, we are even worse off than in the Nile Valley. The whole of the 300 specimens in University College have been found by natives, and are without any history. Most of them I selected at a dealer's from a barrel-full of many thousands, in order to show all varieties of types. The main fact which seems obvious about them is their close equivalence to the Solutrean family of Europe. The total absence of these types from the cemetery age of pre-historic Egypt shows that they must precede that period. The peculiarities of the Solutrean types are as follow: (A) The thin leaf-shaped blades, as in Fig. 70, from mid Solutrean age of Laugerie (Haute?) (S., Fig. 62), parallel with Fig. 71, from the Fayum. This and many other Fayum forms were made from thin natural layers of flint, which saved the trouble of making a flat plate of flint to begin with; but the faulty surface of the layer could not be removed, and spoils the appearance of the face. (B) Flakes were worked down to pointed forms for boring, as 72 (Grotte de l'Église, M., 110) and 73 (Solutré, M., 122); the same type appears in 74, 75, and 76. (C) The vesica form, equally pointed at each end is also found, as 77 from Grotte de l'Église, Dordagne (M., 106), and from the Fayum 78 and 79. (D) Thin flakes, pointed, and with a rounded butt are found at Solutré, 80, 81 (M., 118, 119), and very commonly in the Fayum, as 82 to 85, and 89. (E) Thicker flints, roughly chipped on the face, as the mid Solutrean 86 from Kleine Offnet (S., xvi, 7), are also found in this group, 87. (F) The small curved knives 91 to 93 are usual, and many have a thick unworked handle, as 93, 94, 95, left with a thick, flat, edge to bear against the hand. This is the best adaptation for the hand that is found in flint work. The narrow worked blade, 96, is like the forms from the Grotte de l'Église, 97, 98 (M., 108, 109). (G) The prismatic rods of flint worked on all faces, are characteristic of this age, as 99 (Denmark, M., 396), 100 and 101 (Mentone, M., 117, 116), and such also belong to the Fayum, 102. (H) Small equal-ended forms are often found minutely chipped over the whole surface, as 103, 105, 106, 125, 127, 129; and parallels to these come from Solutré, 126, 128 (M. 99, 95).

Of arrowheads the nearest parallels to the Fayum types are 109 Aveyron (with bronze (?), M., 387), 111 Denmark (M., 397), 120 Aveyron (M., 386), 123 Aveyron (M., 379). Most of these are worked over both faces; but 112 and 116 are flat on the back. Of the smaller forms, 133–135, there are very few in other countries; the nearest forms being 132, from Lago di Garda (M., 391), 134 from Mayence (M., 371), and the elaborate work of 141, from Portugal (M., 374).

Saw flints are common in the Fayum, as 147–149, and are nearly like the Danish type, 146 (M., 352). Such saw flints probably continued to be made into later times. Sickle flints, with smaller teeth and curved edge do not appear in the Fayum, but were very common in historic times, even down to the XVIIIth dynasty. The handled knife, 150, 151, appears in the Fayum group; but it looks as if it must be an intrusion, picked up by the native collectors from some source different to the rest of the series, as it borders on the type of the Ist dynasty.

153 to 157 are peculiar forms, of which the sources are unknown. The small flints with a straight base are found in Europe, 158 at the Lake of Constance, 159 at Doubs (M., 369, 370); they are curiously close to 160 from the settlement at



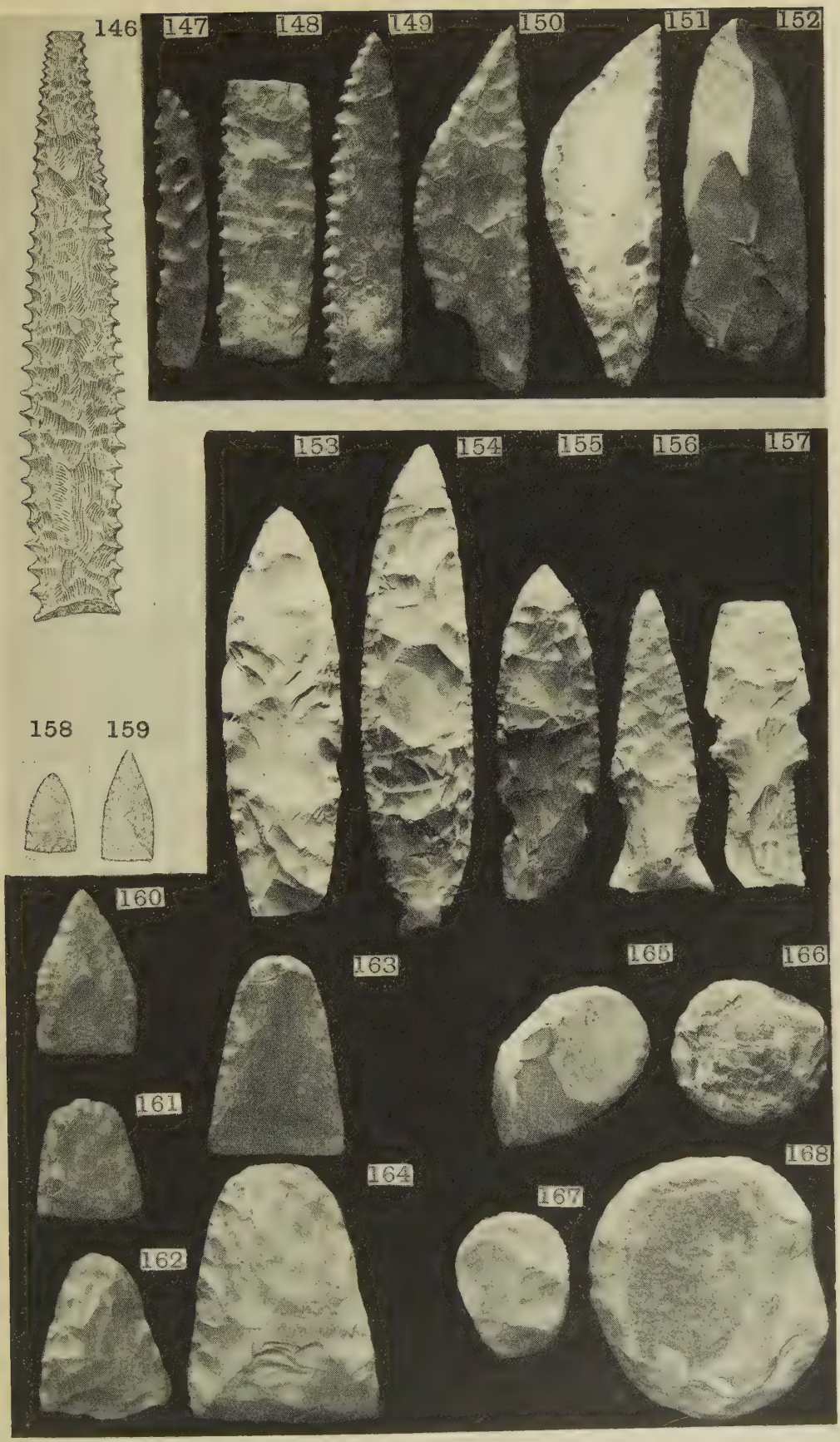
91–145 Solutrean.

Naqadeh. This borders on the flat-based and round-ended type 161 from the same site, and 162 to 164. The latter two are finely worked, with the under side a remarkably flat fracture; the purpose of this type is unknown.

The round scraper is common in Egypt. 165 to 168 all have a single flat face below, and are almost flat above, with well rounded edge chipping. 165 is from the settlement at Naqadeh, 166 from 1,000 feet over the plain at Thebes.

W. M. Flinders Petrie.

(*To be continued.*)



146–149 Solutrean. 150–168 Uncertain.

MORE OF THE EARLIEST INSCRIPTIONS.

SINCE the account of the earliest inscriptions, on the cylinders, was given in ANCIENT EGYPT (1914, p. 61), a large group of twenty-eight more such inscriptions has been brought forward by Mr. Blanchard of Cairo, who has collected them for some years past. I have particularly to thank him for making a set of casts, which he has kindly given me for study; from these the present drawings are made, and I hope to publish them in photograph when the general catalogue of cylinders may be issued.

For facility of reference these fresh inscriptions are numbered on from the previous series which ended at No. 75. Beside the twenty-eight here of the earliest class there are a few of historic times, continuing the numbers to 108. Mr. Blanchard's cylinders, being obtained from natives coming to Cairo, are mainly derived from Lower and Middle Egypt, and some are known to come from the Delta. In accordance with this there are twelve with the seated figure, which we have already noticed (1914, p. 66) as being the prototype of the Memphite steles; while there are only two of the *aăkhu* birds, which are like those on the steles of Abydos. The distinction of these types, belonging to the North and South respectively, is therefore confirmed. The inscriptions are here grouped in the same manner as those before published.

SEATED FIGURES, 76–87.

No. 76 apparently only bears the personal name Nebsneit, a name given as dedicating the child to the goddess, "Her mistress is Neit."

No. 77 has the *theth* formula, "May she be like unto Neit;" and the name Hekasen, meaning "Magic conforms—or unites—the worshipper with the gods."

No. 78 has only the *theth* formula, "Like unto Neit and Hen." In No. 38 Hen occurs, apparently as a deity parallel to Neit. It may be an early form of writing the god Henena who is named in the Pyramid Texts (Pepy I, 636).

No. 79 bears the name Kanebneit, referring like No. 76 to a child being dedicated to Neit—"The mistress of the *ka* is Neit."

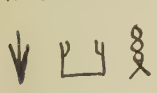
No. 80 is another Neit name, Auotesneit, "Neit is her inheritance."

No. 81 appears to read Pekhetneit, meaning, "This offering to Neit," or "This thing is of Neit," or "It is a thing of Neit," another form of dedicating a child to the goddess.

No. 82 reads, "Like unto Ahat, like to the circulating moon." The cow Ahat was the divine mother, identified with Isis as mother of Horus, and hence connected with the moon. This suggests that the favourite early names Beb, Beba, Bebu, Beba-onkh, Beba-res, Beba-senb, and others, may all refer to the moon-mother goddess.

No. 83 appears to read as the name Zesa, meaning "to revive," with *sa sa*, repeated parts of the name.

HER MISTRESS IS NEIT.



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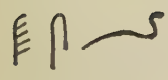

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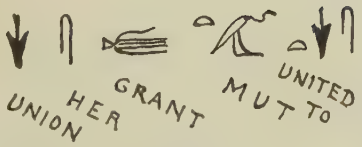

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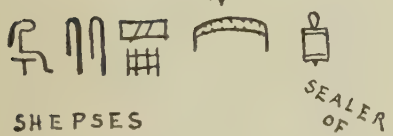

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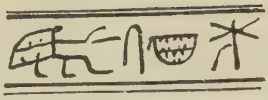

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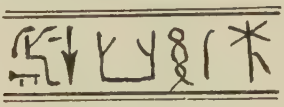

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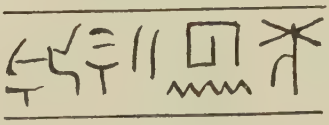

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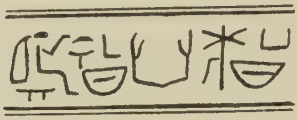

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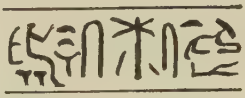

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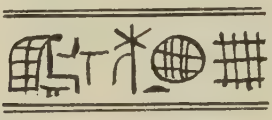

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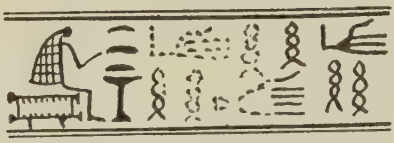

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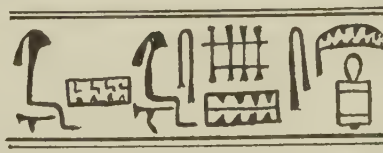

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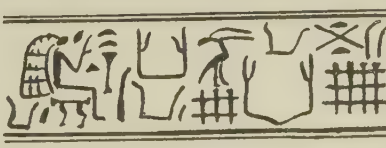


87

No. 84 is partly broken, but the imperfect signs point to there being three repetitions of the same group.

No. 85 is an invocation to Mut, "May she be united to Mut, grant her union." The name Sen-mut, "united to Mut," occurs on another cylinder, No. 74, and is familiar as that of the well-known architect in the XVIIIth dynasty.

No. 86 begins with a sign which is not certainly identified. It is probably the *sethet* sign, the early form of which is seen on the ivory gaming slip of King Qa (*Royal Tombs*, I, xvii, 30); this may be the same as the sign *o* used for "a caravan." As *sethet* designates both the people of the First Cataract and the Asiatics, it may well be that the two signs are identical, and mean "nomads" or "desert dwellers." This cylinder belonged then to the sealer of the caravan goods, or customs officer, named Shepses. The sign in question seems as if it was a bundle of goods rolled in a cloth, and secured by tying it up at each end. Such a form of bundle is earlier than a sewn-up sack, and would be suited for putting across an animal's back. Bundles like this I have often made up when packing in Egypt. Another sign which looks as if it might well be of the same origin is *kep* or *kăp*, meaning "to hide"; this may be derived from the rolling up, and so hiding, things in a cloth. The good representation of the cylinder seal, with metal caps at each end, and a loop for suspension, should be noticed.

No. 87 begins with an invocation to Neit, "May she be like Neit"; followed by the personal name Pekashed. This sign *shed* occurs in very few words, and here it might mean, "May this *ka* be nourished," or "This *ka* of the Persea," as the sign is used in writing the name of that tree, *ashed*.

Aăkhu Birds.

No. 88 appears to bear only the personal name Aăba, repeated in different ways. The *aăkhet* bird is like those on cylinders Nos. 12 to 22.

No. 89 may probably be names repeated in different forms.

No. 90 belonged to a "Guardian of this house—or temple—of Neit."

No. 91 reads, "The gift of Sebek" with the name Nefer-hetem. This name, meaning "Excellence of fulfilment," is evidently an exclamation at the birth.

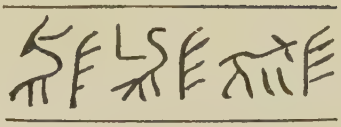
No. 92 expresses another devotion to Neit, "Neit mækes perfect." Here the crocodile, Sebekt, is a form of Neit (*see* Lanzone, *Diz. Mit.*, 1043–4); the association of Neit nursing two crocodiles is familiar in glazed pottery amulets. The personal name here appears to be Seba.

No. 93 reads, "Her *ka* is conformed—or united—to Bat." Here, in the place of the god's name of the formula, appears to be the bee. As no god is known named Bat, it seems that this is a prayer to be conformed to the king, so as to accompany him in his life with the gods.

No. 94 is confused with many repetitions. It is a prayer for conformity or union with the god Sa, who appears in the Pyramid Texts (Unas 439) and also later. He was one of the gods accompanying Ra. As *T* or *Tet* is brought into the formula, that is probably the personal name.

No. 95 bears a simple prayer, "Living gods give life"; or perhaps, in view of a minute *aăkhu* bird between the *neter* signs, it might read, "Gods of the Living Spirits give life."

No. 96 has the name of a high priestess, "The Divine Wife, Shedt." The sign below may possibly be a form of the hand which usually is written along with the *shed* sign.



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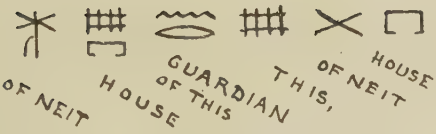

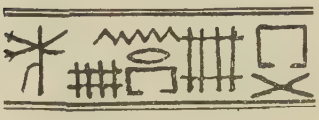

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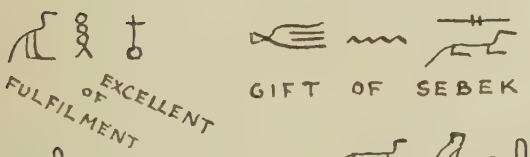

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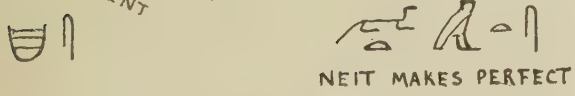

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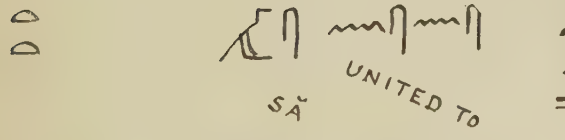

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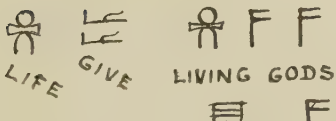

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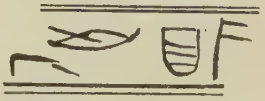

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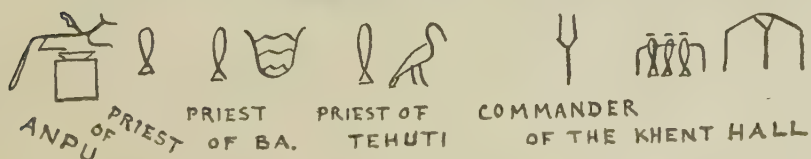


No. 97 is the largest early cylinder that is known. It belonged to an official who was "Commander of the *khent* hall of the palace, priest of Tehuti, Ba, and Anpu." It is noticeable that this earliest known writing of Tehuti is repeatedly expressed by two birds, suggesting the dual, as in the termination of the name Tehuti Similarly, the name of the god Mehti is written with two hawks; and the plural names Heru, Khnumu, and others, written with three animals.

No. 98 is not clear in its structure. It would seem to read, "May she go forth conformed from the *khent* hall," with the personal name Sha. The *khent* hall was the portico of the palace; and, from that, of the temple. In it the royal purification took place before admission to the temple; and it is probable that the ordinary worshippers were only admitted thus far. Here it was then that conformity or union with the gods would be ceremonially sought.

No. 99 has apparently the personal name Erdanefer, "Being well given," like the Greek name Eudōros. The title or prayer is not clear.

No. 100 has the same title as No. 69, the "Opener of the canal banks" at the inundation. The name is Nuna, the devotee of Nun, the primitive water-god.

No. 101. The Maltese cross sign is probably *un*, as in No. 58. The name Unn-ka expresses the satisfaction at the continuance of the family *ka* re-incarnated in the new-born child, "The ka exists," or continues to be.

No. 102 is much worn, and not intelligible.

No. 103 has a well-known title of pyramid times, the *her seshta*, or secretary, in the form *her khetm sesh neb*, "over the sealing of all writings." The personal name appears to be Sezā, meaning to revive or make healthy.

No. 104 is of a different workmanship, and much worn in parts. It apparently did not bear any inscription similar to those here considered.

No. 105 may contain the name of an early king beginning Ar . . . . . ; he was prophet of Hathor who presided over the *duat* hall of the palace, or of the temple.

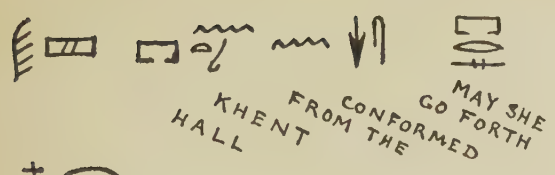
No. 106 is of Khafra beloved by Hathor.

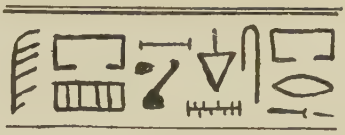
No. 107 is the same inscription.

No. 108 is a portion of a cylinder of Sahura. The inscription is too much broken to be safely restored.

It is satisfactory to see that nearly all of these cylinders are intelligible as to their structure, and most of them read as reasonably as the short expressions of later times.

W. M. F. P.





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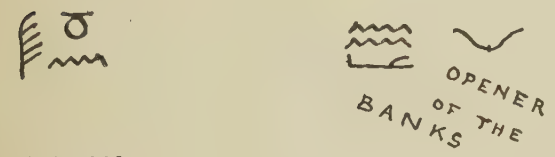

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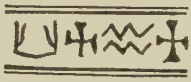

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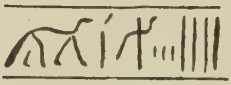

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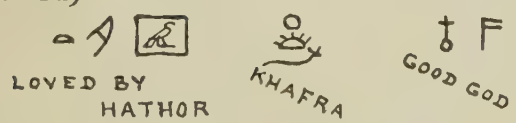

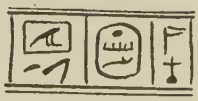

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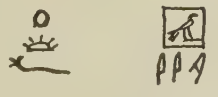

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REVIEWS.

The Rock Tombs of Meir. Vol. I, *The Tomb-chapel of Ukh-hetep's son Senbi.*— A. M. BLACKMAN. 4to, 41 pp., 33 plates. 25*s.* (Archaeological Survey of Egypt, Vol. XXII.)

This book contains a thorough account of one of the tombs at Meir, of the beginning of the XIIth dynasty. The whole is given in drawing, which is of sufficient scale in the key plates and the details; while the more important parts appear in thirty-four photographs, and six colour photographs. The general type of the tomb is intermediate between those of Deshasheh and of Benihasan, as it is also intermediate in both its locality and age. A catalogue of the tombs of Meir, of the VIth and XIIth dynasties is given; and genealogies of three generations in the earlier group, and seven generations in the later. Especially may be commended the translating of the short sentences over the scenes, which have been too often neglected owing to their obscure brevity. Many points of interest are mentioned or discussed in the description. The nomarchs in the middle of the XIIth dynasty assumed much of royal attributes; behind Ukh-hetep V is the formula "All protection, life, stability, and happiness, all health, all joy, behind the Nomarch, over the priests, Ukh-hetep, for ever," and he is shown holding the *onkh* like a king or god. The type of the herdsmen is in some cases clearly not Egyptian, and is identified by Prof. Seligman with that of the Beja tribes in the eastern desert. The art of the tomb shows a peculiar development toward naturalism, rising between the VIth and XIIth dynasties; as such a movement is not traceable in the contemporary Dendereh series of sculptures it would seem to have come in from the north, perhaps owing to the Asiatic invasion at the close of the Old Kingdom. The figures are shown in side view, without displaying the whole width of the shoulders, as in Pl. XXI, 2, 3, 4. The men as well as women are coloured yellow; and though the copper-red Egyptian is not likely to have been really modified, yet a Semitic rule may have made a yellow skin to be regarded as the correct tone. A long spiral side lock of hair sometimes is shown, which is not Egyptian. There is a discussion of the *ukh* emblem, which was a fetish of Hathor, so sacred that the ruling family took from it their name of Ukh-hetep. It seems to have been a disc with a pendent uraeus on either side, crowned with two straight feathers, and supported on a lotus handle, decorated with a bow tie and ends, or perhaps a *menat* collar as Mr. Blackman suggests. Against the latter interpretation it should be noted that there was only one pendent *menat* to a bead collar, not two ends as figured here. A point to remember is that the hieroglyph of Kusae is not a man with two giraffes, but with two long-necked panthers like those on the Narmer palette. One point may be reconsidered; in a footnote it is said that the reaper in the Kamara papyrus (ANCIENT EGYPT, 1914, p. 26) has his head protected by a sack. Such would certainly not be needed by any Egyptian during the spring harvest season. It

rather seems to be a linen bag to hold the ears of corn, hitching on over the head and hanging down on the shoulders; this would be parallel to the linen bag worn on the hip by harvesters in the IIIrd dynasty (*Medum*, XXVIII, Tomb 22).

The terrible indictment of past neglect and injury, by plunderers and authorised excavators, which is given without comment, is the best of reasons for hoping that all the other tombs of this district will be fully published as in this volume; and that scientific excavation may yet save a fraction of the amount that has been wantonly destroyed by the past generation.

Prolegomena zur Geschichte der Zwerghaften Götter in Aegypten. Von Franz Balloð. 8vo, 103 pp., 119 figures, with Russian abstract 11 pp. (Liessner, Moskau.) 1913.

One of the greatest needs of Egyptology at present is to form complete guides to all that is known about the various gods. The study here of Bes and allied gods, by a former Russian scholar of Prof. von Bissing, is therefore welcome; but appearing as a doctoral dissertation published at Moscow it may escape notice, and does not appear in Mr. Griffith's ample bibliography. We therefore give an abstract of the work here.

The various names of Besi-form gods are Bēs, Hayt or Hatti, Ahti, Ohăiu, Tettnu, Sept or Sopdu, and Segeb. The sources of these gods are stated from all authorities. The usual opinion is for the Punite origin, probably South Arabian; and some connect Bēs with the Semitic *bus*, "to tread down," *besay*, "a conqueror," referring to the warrior figures; others with the Egyptian *băsu*, "the panther," referring to the skin dress of the god. The various aspects of Bes are quoted, as the god of dance, music, joy, toilet, of women, of birth and infancy, and of defence with sword and shield. If we had to give a single expression for the god, we could only call him "protector of domestic joy."

Next is given the chronology of Bes. First, with names. Of the Middle Kingdom is the inscribed headrest (Brit. Mus.) and figures of Ohăti (ivory wand). In the XVIIIth dynasty is Ohăiu (Book of the Dead, XXVIII). Ptolemaic figures are of Bes and Hayt, Roman of Ahti, Bes and Hayt or Hatti. With foreign attributes is Sopd, smiter of the Mentiu, Tetten, and Hayt. Bes is assimilated to other gods, as Segeb, Min-Hor, Mafdet, and Omom. Second, are dated figures without names; various dwarfs of the prehistoric in stone and ivory, and on seals; Middle Kingdom figures on ivory wands, and the box of Rifeh. In the XVIIIth dynasty, figures abound, on an ivory wand, birth scene of Hatshepsut, amulets, scarabs, spoons, furniture and vases. One of the finest examples—here unmentioned—is the ebony and electrum toilet box of Amenhetep II at Edinburgh. Of later dynasties there are scarabs, amulets (mainly XXIInd), rough vases (XXIIIrd–VIth), the Bes pillars (XXVth and Roman), complex polytheist figures of Bes as on the Metternich stele, the Serapeum bronze, and the great amulet (*Amulets*, 135*aa*), and lastly, the Roman terracotta figures. The Nubian forms follow.

The last section is on the types of Bes, classifying the above material by the forms. The dates of appearance of all the details and varieties of the types are stated,—the best summation in the book. Then follows a classified list of all the varieties of types used in different ways, with hundreds of references to publications. The important female form of Bes is only glimpsed in seven lines; it needs much fuller treatment.

All this is termed Prolegomena to the history of the dwarf-gods, and we must hope therefore that the study will be continued in various lines of research. Though

continually speaking of the *zwerghaften* gods, yet the whole subject of the real dwarf-god Ptah-seker is not touched. That is a very complex matter; the obscure relations to Ptah and Seker, and to the *pataikoi*, need much elucidation. In the whole treatment we need to define the range of the meanings of the various forms, —the relations to other gods in Egypt and in other lands,—the functions of the dwarf-gods. The method needs to deal more with the facts on which all is based, and not with copious quotations of opinions. It matters most what are the basic facts; how writers have understood them is quite secondary. The present work is too mechanical in piling together references, which largely mean repetitions of the same material,—too much an "emptying of note books." As such it contains very useful material; but it needs much weeding. If the author will proceed to the constructive task of welding his prolegomena, and producing a real history from all that can be gleaned about dwarf-gods, fortified by parallels in other religions, and with just enough of past opinions to show what is already accepted, he will do a most valuable and permanent work. We hope also that future illustrations may be larger and more distinct.

Palestine Exploration Fund; Quarterly Statement, Jan., 1915. 8vo, 52 pp. 2*s.*

This number contains various papers of interest connected with Egypt. Lieut. TRUMPER discusses the route of the Exodus from a personal study of the region. The key of his position is that Marah is Ayun Musa. Thence he traces back, three days' journey (Ex. xv, 22), and reaches a site which he proposes for the crossing opposite Gebel Geneffeh, where he supposes Migdol to have been. He fully accepts the position of Pithom, and takes the milestone found there as proving that Clysma was eight miles from Ero, or Pithom, and therefore not to be sought for at Suez. In all this there are several matters which are not taken into account. The Antonine Itinerary proves that there was a Clysma near Suez, doubtless the present Kolzum north of Suez. But as the name Clysma merely means a shore, the milestone proves that there was a shore, or edge of a lake or sea, at eight miles east of Pithom. In the itinerary in Exodus it is certain that undistinctive stages are not noticed. From Etham, which all agree was about Ismailiyeh, there are but five days' journey specified in going south to Elim, which must be Wady Gharandel. The distance is 110 miles, so probably three days at least are not specified. This being the case, it seems more likely that Marah next before Elim is the bitter Ayn Hawareh, a few miles north of Gharandel, as that is three days in the wilderness from the last fresh water. Then the unspecified days' journey were either before or after the crossing, and thus the position of the crossing is not fixed, and may probably have been in the shallows near Sheykh Henedik, rather than in the deepest part of the Bitter Lakes. As to Rameses, which Mr. Trumper would place north of Pithom, there is no chance of its being out in the open desert; the only possible site for it is Tell Retabeh, where monuments of Rameses II and III exist.

Prof. MACALISTER gives an account of a collection of pottery at Jerusalem, with four photographs of groups by the owner, Mr. Herbert Clark. The open dish lamp is of seventh-century Greek origin, as at Naukratis. The pottery alabastra forms are Ptolemaic; in alabaster they may be of Persian period but not earlier.

Mr. OFFORD writes on the former extent of the papyrus growth in Egypt.

Mr. STANLEY COOK gives a summary of an important paper by Prof. Max Müller (*Jewish Quarterly Review*, April, 1914) on a papyrus of the reign of

Tahutimes III, now at Petrograd. This contains a list of envoys from a dozen cities of Syria, which must have been the residences of petty chiefs. These places are: (1) Megiddo; (2) Kinneroth, near Tiberias; (3) Yakasipu, Achshaph; (4) Shamaduna, supposed to be Shabbethon; (5) Taanach; (6) [Ru]?-sha'ara, supposed to be a Rosh-El, "God's Summit"; (7) Tinni (unexplained), perhaps Dan or Tipunu-Dibon; (8) Sharon; (9) Ashkelon; (10) Khusura, Hazor; (11) Hatuma, unknown; (12) Rakisha, Lachish, the first mention of that city. We should note that these names appear to fall in two separate groups geographically, 1–8 in Galilee, 9–12 in S.W. Palestine. The Egyptian names (see *Jewish Quarterly Review*) are transliterated in the system we use here, as follows, with probable equivalents:—

1. Maketa ... ... Megiddo.
2. Kinnaratu ... ... Kinneroth, near Tiberias.
3. Yakasipu ... ... Achshaph, Yasif, 6 N.E. of Acco.
4. Shamar(d)una ... Shimron, 5 W. of Nazareth.
5. Taonaki ... ... Taanach, 4 S.W. of Megiddo.
6. Shaora ... ... Sh'arâh, 1½ S.W. of Sarona.
7. Tinni ... ... Denna, 7 S. of Sarona.
8. Saruna ... ... Esh-Sharon, Sarona, 6 S.W. of Tiberias.

The furthest apart of these places are 3 and 5, 30 miles apart.

The southern group is to the south-east of Ascalon:—

9. Osqaluna ... ... Ashkelon.
10. Ḥusura ... ... Hazor, Hadattah, near Ashkelon.
11. Hatuma ... ... Etam, 12 E.S.E. of Lakhish.
12. Lakisha ... ... Lakhish.

Some of the identifications proposed by Prof. Max Müller differ from these. Shamaduna, also read Shamaruna by Prof. Golénischeff, M.M. identifies with Shabtuna of Thothmes III, now Shebtin, 9 E. of Lydda, which does not belong to the Galilee group. Saruna, now Sarona by Tiberias, M.M. connects with the plain of Sharon, which does not agree to its position in the lists. Shaora (or (Sha'ara), M.M. conjecturally reads Rosh-El, but does not identify it. It seems to be Sh'arâh by Sarona. For Tinni M.M. suggests Dan or Dibon, but Denna is near Sarona. In the southern group the Hazor Hadattah is named by Eusebius and Jerome as near Ascalon. Hatuma is not identified by M.M., but with the weak *h* it may well be Etam, the position of which is not certain, but supposed to be as above. The only way to deal with ancient names is to observe the geographical grouping, and then to search the map exhaustively in the probable region.

Cairo Scientific Journal, August, 1914. 1*s.* (Wesley and Son.)

Though this useful Journal is mostly occupied with modern questions, it contains also some papers of archaeological interest. In the above number is a valuable account of "Customs, Superstitions and Songs of the Western Oases," by Mr. HARDING KING. In Khargeh Oasis is a procession of a Mahmal, which is claimed as being the origin of the Cairo Mahmal that goes yearly to Mecca. A camel bears a tent in which is a hereditary occupant, who receives small offerings from the people. It may well be that an early custom is thus preserved; and as the Cairo Mahmal is said to have originated in 1272, it was certainly imported into Islam, and probably had some earlier source.

The most striking custom is that seven days after birth the child is placed in a sieve with salt and grains of corn; these are sifted through and scattered in the village. "The ceremony is then completed by the father of the child trundling the sieve like a hoop through the streets of the village, ... the sieve is trundled about so that when the child grows up he may be able to run quickly. This custom is common to both Khargeh and Dakhleh." This exactly explains a curious scene in the birth sculptures at Deir el-Bahri and elsewhere. After the birth of the child it is nursed by the goddesses, and presented to the gods; after that appears Anubis, rolling a disc along upon the ground (*Deir el-Bahari*, LV). Dr. Naville states (II, 18) that this scene recurs "in all the birth temples, except at Luxor . . . From the text at Denderah I gather that this disc is the moon, and that the god is presiding over the renewal of the moon." The earliest mention of devotion to the moon, on a cylinder published in this number (p. 78), describes it as *Aoh ne beb*, "the moon of circulating"; and the very common names of Beb, Beba, Bebu, in the earlier part of the history show how prominent was this aspect of the moon. Thus the surviving belief that the rolling sieve is a charm to give quick running to the child, agrees with the meaning of Anubis rolling along the circulating moon as an emblem of motion. There may be some further connection of the jackal-god with the three jackal skins which seem to originate the sign of birth, *mes*; but of this there is not connective evidence as yet. At least we can now see the survival of the scene shown in the temples, and ascertain its import.

A custom agreeing with that in Southern Europe is that in order "To protect a tree from the Evil eye and ensure a good crop, some animal's bone—frequently a skull, wrapped up in cloth is hung up in the branches, and sometimes small doll-like figures are used in the same way." The bucrania for protection were well known in Egypt; they appear over the doors on a prehistoric ivory carving (*Hierakonpolis*, XIV), over the shrine of the Fayum (*Tarkhan* I, ii, 4; *Labyrinth*, XXIX, and ever after), and dozens of coloured skulls trimmed for hanging up are found in the pan-graves (*Diospolis*, XXXIX). A curious illustration of the persistence of native custom in the female line is seen in the use of songs. "There are a number of songs peculiar to the Oases. They are all sung by women, while the men sing only Bedouin songs." This agrees with other instances where intrusive custom is restricted to the male descendants.

Mr. G. W. MURRAY gives a brief notice of the old mining camp of Bir Kareim, which has been suggested as the site of Sety's establishment in the Turin mine papyrus. The existing remains seem to be all Roman. He also mentions a discovery by Mr. G. B. Crookston of ancient workings for amethyst near Gebel Abu Diyeiba, between the phosphate mines of Wasif and Um Huetat. The cavities with amethysts are in veins in the granite which run straight for hundreds of yards. These seem like old faults filled up by gradual precipitation. Such a source agrees with the abundance of amethyst in the XIIth dynasty when Nubia was being exploited.

PERIODICALS.

Zeitschrift für Aegyptische Sprache, Vol. LI, 1914.

LACAU.—*Suppressions et modifications de signes dans les textes funéraires.* It is well known that in the Pyramid Texts and in inscriptions of the Middle Kingdom certain signs are represented in a mutilated condition. This has been recognised as due to the belief that such signs had in themselves a certain danger, due to the fact that the objects, which the signs represented, had power to molest and even to kill. M. Lacau points out that the mutilation, and even suppression, of these signs was carried out to a considerable extent, and introduced many curious changes in the orthography. He calls attention to the fact that these alterations occur only in inscriptions in the actual burial chamber, or for the use of the dead only; and that the signs affected always represent living creatures.

Pyramid Texts.—In these inscriptions, particularly those of Unas and Teta, the human word-signs or determinatives, common in other Old Kingdom texts, are suppressed, and the word is spelt out in alphabetic signs. This is not the archaic method as is usually supposed, but an abnormal variation. In the texts of Merema and Neferkara the earlier system is reintroduced, but with the signs mutilated. Replacement of a dangerous sign by one which is harmless or neutral is also found. These neutral signs are ○ | \, often used instead of a human figure, especially in the dual and plural. The human figure as a word-sign is also replaced by another sign having the same phonetic value, *e.g.*, the pronoun of the first person singular is replaced by ; in case of a determinative the human figure is replaced by another sign which gives an approximate sense of the word. Mutilation is the "killing" of a sign so as to render it harmless. The mutilation of the human figures consists in retaining the arms and legs in the characteristic attitude, and eliminating the body and sometimes the head. The same rules appear to hold good as regards animals, with the exception of the fish-signs; for in the whole of the Pyramid Texts there is only one representation of a fish (N. 537). The taboo on fish may account for this fact; as fish appear to have been considered peculiarly malevolent, they would be excluded from the near neighbourhood of the dead king. The scorpion is always represented without a tail, but for some unknown reason the and are never mutilated.

Middle Kingdom.—It is remarkable that the suppression or mutilation of signs is quite inconsistent at this period. Thus, the double sarcophagus of Mentuhotep, now at Berlin, contains human figures in the inscriptions on the inner sarcophagus, and none at all in the inscriptions on the outer. Yet the two were made for the same person and probably in the same workshop. In many instances in Middle Kingdom texts the human figure is replaced by the vertical line |, which is used for man, woman, or child signs; for the bearded man the sign is rather longer. The determinatives of the words for "enemy" or "death" are replaced by the diagonal stroke \. For the animal signs there is no fixed rule. The birds are often mutilated by the omission of the hinder parts including the legs. The serpents are represented with the heads divided from the bodies; the scorpion is

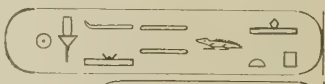
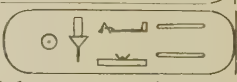
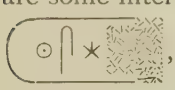
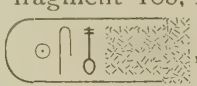
without a tail; and the royal wasp sometimes has the head cut off and is sometimes replaced by its equivalent . The sacred animals representing the gods are occasionally omitted altogether, the god's name being then spelt out phonetically and followed by ; or the animal is replaced by another emblem of the god.

New Kingdom.—The suppressions and modifications continue in the New Kingdom, though the affected signs differ from those of the earlier periods. In the words for "enemy" and "death" the human figure is replaced by the circle ○ as in the Pyramid Texts. On the funeral cloth of Thothmes III all knife signs are omitted and the bird of evil is sometimes suppressed. In other instances the negative sign is replaced by , and the hand of force by . M. Lacau's theory is that the idea underlying these changes is the belief that certain signs would be able to work harm to the dead in the darkness of the tomb.

Spiegelberg.—*Eine Urkunde über die Eröffnung eines Steinbruches unter Ptolemaios* XIII (3 plates and 1 illustration). A demotic inscription in a quarry in Gebel Sheikh el-Haridi. Above is a scene representing Ptolemy XIII standing before Min, Horus, Isis, Harpocrates and Triphis. The inscription recounts that in the eleventh year of the king's reign on the seventh of Tybi, the day of the festival of Min, Psais son of Pe-alal, with his sons and brothers, opened the quarry.

Spiegelberg.—*Neue Denkmäler der Parthenios, des Verwalters der Isis von Koptos* (1 plate and 5 illustrations). This Parthenios, son of Paminis and Tapchois, is well known from the number of monuments dedicated by him. Several new inscriptions of his have been discovered; amongst others are the dedication of a sandstone door at Koptos in honour of the Emperor Claudius; the draft of an inscription recording repairs done to the sacred boat of Isis; and two much mutilated records, one referring apparently to some buildings in the temple of Isis at Koptos, the other to the "*shā*-house," *i.e.*, the shrine of Geb at Koptos.

Spiegelberg.—*Ein zweisprächiges Begleitschreiben zu einem Mumëentransport* (2 illustrations). A wooden label inscribed on one side in Greek, on the other in demotic. This is not an ordinary mummy-label, but the invoice for the transport of a mummy to Panopolis.

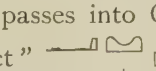
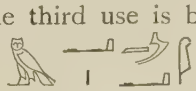
Pieper.—*Untersuchungen zur Geschichte der XIII Dynastie* (1 plate). *Turin royal papyrus.* Some new and interesting readings are noted here. In column vii, fragment 77, l. 6, the reading of the name is undoubtedly  , Rā-sekhem-hu-taui Sebekhotep, and not as it is so often read  , Rā-sekhem-khu-taui. In l. 10 are the remains of a name which apparently reads , Rā-ka-Set. This king's name is already known on a bead published by Legrain (*Ann. du Serv.*, VI, 134). The arrangement of the fragments shows that columns xi and xii should contain the XVth and XVIth dynasties, and this is borne out by the foreign names found in them. In column x, however, there are some interesting names. In fragment 108, l. 3, the king's name is to be read  , Rā-sba . . . . , not  , Rā-snefer . . . In fragment 123, l. 4, is a king , Ka-āanaty; a foreign name,

corresponding according to Burchardt, with the Canaanitish *ānt*. In l. 5 is another king ; the latter name is identified with the Bνῶν of Manetho. There are three Hyksos kings whose cartouches end with , Rā-nefer-ka, Rā-nub-ka, and Rā-sma-ka. From the relative position of the names on the papyrus it seems probable that Rā-nefer-ka and Rā-nub-ka are the kings in question.

Möller's palaeographical researches have made it possible to identify the Turin Papyrus as a document of Lower Egypt; it must therefore embody the historical tradition of the Delta, which was not necessarily the same as that of Upper Egypt. In studying the lists it is obvious that the names of Egyptian kings fall into groups in each dynasty, both the throne and personal names. Taking, then, all the Sebekhoteps and Neferhoteps, we find that their throne names fall also into three groups, obviously closely connected. From this it seems evident that we have to do here with one complete dynasty scattered among the names of other kings. This can only be explained by the hypothesis that the Sebekhoteps belonged to a dynasty of Upper Egypt contemporary with a dynasty reigning in Lower Egypt.

BURCHARDT.—*Die Einnahme von Satuna* (2 plates). This is a little-known relief of an event in the reign of Rameses II, sculptured on a wall on the west side of the temple of Luxor. It represents the fortress of Satuna, standing on a hill, which appears to be surrounded by a forest of leafy trees and cedars; in the forest a bear attacks a fugitive; the king and his army are shown advancing on the citadel in the usual manner. The interest of the scene lies in the fact that, though the fortress must by its surroundings have been in Syria, yet its defenders are represented as Libyans, wearing the Libyan girdle, side-lock, and feathers; and also that the artist, having discovered his mistake, has attempted to rectify it by altering the hair and beards into the Asiatic form. The inscription on the fortress has also been altered, but the original signs have been so completely destroyed that it is impossible even to guess at them. An unusual point in this sculpture is the introduction of low-growing blossoming plants in the spaces among the figures.

EMBER.—*Kindred Semito-Egyptian words.* A list of a hundred Egyptian words with examples of kindred words in allied languages, chiefly Arabic and Hebrew. In many cases a short discussion is added.

SPIEGELBERG.—*Die allgemeine Orts und Zeitbestimmung* *im Koptischen.* The sign , originally meaning "Hand" or "Arm," is often used to express time, place, or condition. This use passes into Coptic, where the word becomes ⲁ. Thus: ⲁⲛⲧⲱⲟⲩ "Mountain district"  . The Coptic ⲁ, which means "About," *i.e.*, an uncertain amount, also derives from ; in this use it is often preceded by a preposition, *e.g.*, ⲛ̄ⲛⲁⲡⲛⲟⲩϫⲉ ⲛ̄ⲟⲩⲱⲛⲉ "About a stone's throw." The temporal form is also ⲛⲁ; ⲛⲁⲟⲩⲛⲟⲩ ⲥ̄ⲛ̄ⲧⲥ "About two hours"; in this form the Sahidic ⲛⲁ becomes ⲛⲁⲩ in Boheiric. The third use is best exemplified in the expression ⲛⲁⲙⲉ, "In a condition of truth,"  .

MURRAY.—*The cult of the Drowned in Egypt.* The cult of the drowned being known throughout the world, it is only natural to look for it in Egypt. It is

a form of water worship, and is therefore found in some of the cults of Osiris. It seems also to have been connected with the sacrifice, actual or vicarious, of the king.

MEYER.—*König Sesonchosis als Begründer der Kriegerkaste bei Diodor.* The law-givers of Egypt, according to Diodorus, were six in number: Mnevis, Sasuchis, Sesonchosis, Bokchoris, Amasis, and Darius I. The first two are legendary, the last three are well known. Sesonchosis has generally been identified with Sesostris, but in Manetho Σεσωγχις (Africanus) or Σεσογχωσις (Eusebius) is the form used for the Egyptian Sheshank.

Miscellaneous.

SPIEGELBERG.—A correction of a demotic inscription published in the previous number. The inscription should begin, "Afterwards it happened one day that Pharaoh betook himself to the burial vault of Apis."

SPIEGELBERG.—The Coptic date-word ⲧⲥⲡ- is derived from the ancient Ⓝ, and is not used for the Indiction; the ⲧ is the remains of the word ḥa-t.

EMBER.—Sethe has called attention to secondary stems in Egyptian with prefixed ḥ. These are paralleled in Mehri, a language of Southern Arabia.

M. A. MURRAY.

FLAXMAN SPURRELL.

1843–1915.

THE notice of the death of Flaxman C. J. Spurrell will not convey much to the present generation of workers in Egyptology; but his help and influence had largely to do with the wide and scientific treatment of the subject in England. Living near the Crayford pits, he was devoted, forty or fifty years ago, to the search for the mammalia in the brick earths there, and the study of flint implements. He discovered a stratum of flints left in the course of working on an old land-surface, and succeeded in re-constituting some of the flakes into the original blocks. On my exhibiting plans of ancient earthworks in 1876, he took much interest in them, and began a close friendship which led him to give his time largely to Egyptian matters for nearly twenty years. In the work of the unpacking and arranging collections, in studying the materials—especially the colours and gums—in sorting and drawing flint implements, and in other subjects, he was indefatigable. Some of the books of that time show his work in the plates, as in *Kahun*, *Illahun*, and *Naqada*, and in chapters written by him in the latter two books. In those years, before the present generation of workers arose, he was the constant helper in all the scientific questions that appeared, as well as in the hard work of handling the tons of materials that had to be received and despatched in England.

The stimulating manner in which he encouraged research could hardly be better shown than by a letter of his, dated in 1881. In that he wrote: "I do not know a treatise on the Geology of Egypt, in fact it is very uncertain, but it appears to me that the study of the evidences of a rainy time in connection with evidences of man, offers a splendid chance of proving the antiquity of the race. There must have been a time when the Nile Valley was excavated and the lateral valleys poured down in torrents the gravels in which implements have been found, and through which tombs have been cut. While this was going on, was the Nile depositing the present style of mud? If not, when did the mud begin, and were there no late periods of detached rainfall which might have overlapped and ploughed into the mud? Is the drought of Egypt increasing now or not—I mean, what is the rainless region doing, contracting or enlarging, and is it capable of being compared with the mud deposits? I do not know if there are records of more or less rain in ancient inscriptions. Is it possible that the rainy period coincided with our later glacial times?—it has often occurred to me that the rainy period in Egypt and Morocco was our glacial period—the showery, or intermediate period, was the heavy cold rain time which followed our glacial, and the rainless time of Egypt is our time of reduced rivers and the dry valleys of to-day. It seems probable that the pluvial period in this country was more likely to destroy life than the dry glacial cold—at least to me. Can you see anything worth examining in these matters?"

After a discussion of festooning in drift strata, and the confusion of black and blue in early colouring, comes a postscript: "Are you in town this week? If you are near the Brit. Mus. and can meet me for an hour or so, I will join you—but *not* unless you have occasion to be there. I have lots of questions.—F. C. J. S."

The many questions raised in this letter are not answered yet, after a third of a century; but the article on the Stone Age in Egypt in this Journal will show that a little has been done toward the research so eagerly sketched out long ago. Personally, Flaxman Spurrell had a beautiful character. Abhorring all underhand doings, he avoided most of the current affairs as being too much mixed with cliques and wire-pulling. He was fastidious in his relations to men, as well as in his methods of work. Utterly true in the loyalty of his friendships, he was always ready to take up actively any piece of research presented to him, and to follow it unsparingly. It was most regrettable that he could not be persuaded to go to Egypt, and work with the stimulus of fresh material around him. But, as time passed, the pessimism which appeared in an assumption of cynicism over the intense kindness of his nature, grew into a melancholy tone. The entreaties of his friends would not lead him out, and for the last twenty years he seldom came from his retirement in Norfolk. Once and again in a few years he would suddenly appear for an hour or two, in a way tantalizing to those who remembered the keen interests of the past which he could no longer be induced to continue.

W. M. F. P.

NOTES AND NEWS.

OWING to the exigencies of the war, our workers are scattered in various directions. Mr. Guy Brunton is still in Red Cross work at Netley Hospital, acting as pay-sergeant there. Mrs. Guy Brunton has been in Hospital work on the East Coast.

Mr. Engelbach has returned from the front, where he was despatch riding, and is Lieutenant in the Royal Engineers, in training at Sheerness.

Dr. Walter Amsden is medical officer at Cooden Beach Camp, very closely occupied with inoculation and testing work.

Mr. H. Thompson (in Oxford and Bucks L. Infantry) is digging trenches on the East Coast, and came upon an ancient grave with Roman pottery.

Mr. G. R. North is now Lieutenant in 9th Batt. Queen's R. West Surrey Regt., digging trenches in Kent.

Miss D. K. Allan has been working on V.A.D., and joined the Scottish Women's Hospital at Asnières, as kitchen orderly; she is now in a ward at the Abbaye de Royaumont, nursing French and Turcos.

Miss Ruth Fry went to France as Secretary of the Friends' league for the protection of war victims, and is now returned.

Mr. Philip Button has been at the front from the first, and is now Captain in the 2nd R. Warwickshire Regt.

With the greatest regret we hear of the loss that Prof. Sir Gaston Maspero has suffered in the death of his son, M. Jacques Jean Gaston Maspero, who fell at the head of his division in the attack on Vauquois in the Argonne, on 18th February. M. Jean Maspero was known by his work on Greek inscriptions, and we shall all grieve at the loss of a scholar, and at such a blow to one of the leaders in Egyptology, to whom all will render their sincere sympathy.

Collection by THE BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT for the OFFICERS' FAMILIES FUND.

In December, I undertook to collect donations for the above-named war relief fund, from the annual subscribers of the British School. The correspondence has brought much satisfaction to us, so great has been the interest and the enthusiasm shown; except for one dissentient the subscribers have been unanimous in their approval, and have given hearty support to this cause. In the first month, nearly £230 reached me, in response to the appeal, shortly followed by another £100. During January, yet another £100 came in; about £50 more up to the present time (15 March) makes a total of £486 18*s*.

The Officers' Families Fund was established in 1899, and worked all through the South African War under experienced management. The Treasurer is Lord Milner, and the headquarters is at Lansdowne House.

Any contributions marked O.F.F., and sent to me at University College, Gower St., London, will be thankfully received, and acknowledged instantly by receipt, and will also be acknowledged in the *Times* and *Morning Post* on the first Thursday of the following month.

HILDA FLINDERS PETRIE.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

SOME of the branches have bravely maintained their activity. Others have flagged, but we hope that these will revive with the spring. It is still not too late to conduct a season's meetings, and the duty of keeping up former intellectual interests is more than ever felt by everyone. One or two of the branches mean to extend their meetings late into the summer.

LONDON. (Hon. Sec., Mrs. Sefton-Jones, permanent address, 74, Cadogan Place, S.W.)—Meetings, monthly; at 8 p.m. tea and coffee, 8.30 p.m. lecture. Dec. 10, at Mrs. P. Bigland's, an impromptu lecture kindly given by Mr. Sefton-Jones, on "The Bogomils." Jan. 29, Egyptian play, by Mrs. Purdon. Feb. 25, Mrs. Lewis, D.D., on "The Sinai Gospels." March 17, Miss M. A. Murray, on "Osiris." April and May meetings not yet announced.

GLASGOW. (*Pro tem.*, Rev. A. C. Baird, B.D., 14, Royal Terrace.)—At the University, Dec. 7, 8.30 p.m., Prof. Milligan, on "A thousand years on the Nile." Feb. 15, 8.30 p.m., Prof. Gregory, on "History of the Climate of Egypt."

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Oct. 17, Major Davenport, on "Ancient Egyptian Jewellery." Nov. 30, Dr. Spanton, on "Water Lilies of Ancient Egypt." Jan. 1, Mrs. Court, on "Sign Language." Feb. 17, at the Public Museum, Mr. Thos. Wright, on "The Fascination of Old Egypt." In April, lecture on Prehistoric Pottery. In June, garden (?) meeting.

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.)—Third meeting, Dec. 30 (Mrs. Cobbold), lecture on "Ptolemaic Period." Jan. 20 (Mrs. Cobbold), lecture on "Graeco-Roman Period." Mar. 3 (Mrs. Schomberg), lecture on "Analogy of African tribal customs to those of Ancient Egypt." A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

MANCHESTER. EGYPTIAN AND ORIENTAL SOCIETY. (Miss W. M. Crompton, the University.)—Monthly, 8 p.m., at the University. Oct. 5 (1914), Annual Meeting, when Prof. J. H. Moulton, D.D., was elected President, in place of Prof. Rhys Davids, retiring; Prof. Flinders Petrie, on "The Metals in Ancient Egypt." Oct. 31, Principal Burrows, on "Recent Excavations in Crete." Dec. 1, Rev. D. P. Buckle, on "The Book of Wisdom." Jan. 15, Miss M. A. Murray, on "Ancient Egyptian Literature and Legends." Feb. 17, Prof. Elliot Smith, on "Oriental Temples and Mummies." Mar. 19 (5 p.m.), Principal Bennett, D.D., on "Archaeology and Criticism."

HILDA FLINDERS PETRIE.

For the description of the Portraits see the first article by Prof. Gardner, on the supreme figure of Cretan art which we are permitted to publish by the authorities of the Boston Museum.

IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM,

IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM.

FIG. 4. LIBYANS OF BAKT.
SHEWING IDENTITY OF MALE AND FEMALE DRESS.
(*From Borchardt's Grabdenkmal des Königs Sahu-re.*)

ANCIENT EGYPT.

TA ṮEḤENU—"OLIVE LAND."

No interpretation of the geographical name , *Ta Ṯeḥenu*, has yet been given. Egyptologists usually understand the word to mean "Libya," but although this meaning is undoubtedly correct, it is not a translation of the name. Countries were often named by the Egyptians, as by other peoples, after the chief product of the land. They called Lower Egypt , *Ta-meḥ*, "Flax-land"; Middle Egypt, , *Ta s̲hemā*, "Reed-land"; Syria (in early times) , *Ta-neṯer*, "*Neter*-land," *i.e.*, the land of the *neter*-pole; and Nubia, , *Ta-peḏt*, "Bow-land," because the bow was the principal weapon of the inhabitants. , *Ta Ṯeḥenu*, is, of course, "*Ṯeḥenu*-land," but the question to be answered is, What is , *Ṯeḥenu?*

One of the most important products of was an oil which is named in Old Kingdom lists of offerings , *ḥātet ṯeḥenu*, "*Ṯeḥenu*-oil." Sometimes this oil is named , *ḥātet nt Ṯeḥenu*, "Oil of *Ṯeḥenu*," and often, in later lists, the determinative is added showing that the Egyptians recognised the oil as a product of *Ṯeḥenu*-land. , "Oil of *Ṯeḥenu*-land," it should be remarked, is never found. Generally mentioned with *Ṯeḥenu*-oil is , *ḥātet āsh*, "Cedar-oil," and this name is also often written , *ḥātet nt āsh*, "Oil of Cedar." It is therefore probable that if is "Cedar-oil," means "*Ṯeḥenu*-oil" and not as it is usually translated "Libyan oil." What then is *Ṯeḥenu*-oil?

On some Ist dynasty labels for oil jars found by Prof. Petrie at Abydos this oil is named ,[1] and the tree branch determinative of the word shows that it was the produce of a tree. If we can identify this -tree,[2] then we have the origin of the name of the country, . What was this -tree?

On an Archaic Slate Palette in the Cairo Museum (*Cat. Gén.* No. 14238) there is sculptured a scene in relief depicting some domesticated animals, and below is

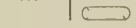
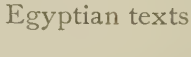
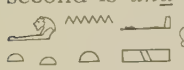
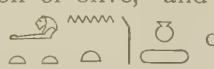
represented a plantation of trees (see Fig. 1). These trees have thick trunks and branches. On the right-hand side of this plantation is the sign , which is certainly the name of the tree. One of the readings of this -sign is *ṯeḥenu*. The sign itself represents a club (see Fig. 2) and when it is found in hieroglyphic inscriptions with coloured detail it is sometimes painted yellow with black cloudy graining (*Beni Hasan*, III, Pl. V). We have therefore four facts to guide us in the identification of the tree. First, it was a tree of sturdy growth with thick trunk and branches. Second, the word-sign for its name is a club, from which we may presume that its wood was used for making clubs, and consequently tough and hard. Third, its wood was yellowish with black, cloudy graining. Fourth, it was an oil-producing tree. Now there is only one Egyptian tree that will answer to the above description and to the figure as shown on the Archaic Slate Palette. This is the olive-tree which, as is well known, is of sturdy thickset growth, has yellowish wood with cloudy graining, produces a valuable oil, and its wood was used in antiquity for the manufacture of clubs.[3] Hence we may, I think safely, translate the geographical name  , "Olive-land."

Fig. 1. Olive Trees and Cattle on Slate Palette.

There is one other fact which points to the identification of the *ṯeḥenu*-tree with the olive. The common name of the olive tree in Egyptian texts is  *baqt*, and for olive oil . In lists of offerings, however, this name is found only twice and these two instances are very significant. In the tombs of Rahotep and Nefert at Mêdûm[4] we have a list of sacred oils, and (Rahotep), (Nefert), and (Rahotep) (Nefert), are mentioned together. The first is *ānḏ nt ā*, "oil of *ā*," the second is *ānḏ nt baqt*, "oil of olive," and these two names take the place of the  and the  of other and later lists.

It has been remarked that *Ta Ṯeḥenu* (which we may now call "Olive-land") is usually understood to mean Libya, but Libya is a vague term. By some classical writers Libya was understood to mean the whole of Africa west of the Isthmus of Suez, by others, all the country to the west of Egypt including the Oases.[5]

Egyptologists generally hold to the latter definition, but there is evidence to show that in early times, at all events, Olive-land included the Mareotis lake region and all the country to the west of the Canopic branch of the Nile, possibly also *much of the Delta itself.* There can be no doubt whatever that Olive-land was a very rich and prosperous country. King Sahure of the Vth dynasty captured from its people no less than 123,440 oxen, 233,400 asses, 232,413 goats, and 243,688 sheep.[6] This immense number of large and small cattle is evidence that Olive-land must have included within its boundaries very extensive grass-lands. Several centuries earlier than Sahure, Narmer-Menes conquered the people of Olive-land. This conquest is recorded on a small ivory cylinder (Fig. 3) found at Hierakonpolis,[7] and it confirms the statement of Manetho[8] that the founder of the Egyptian monarchy undertook an expedition against the Libyans. Another record of the same expedition is the famous Slate Palette of Narmer-Menes which shows the Upper Egyptian Falcon-king smiting the Chieftain of the Harpoon Lake (Mareotis), and on the verso is the scene of a festival at the Great Port which, as I have shown elsewhere, was probably situated near the mouth of the Canopic branch of the Nile.[9]

Fig. 2. Throw-stick, or Angulated Club.

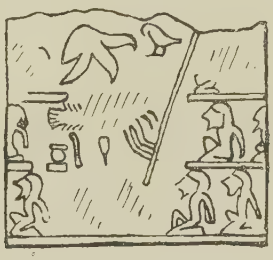
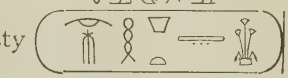


Fig. 3. Cylinder of Nar-mer Conquering the Ṯaḥenu.

(Fig. 4, *see Frontispiece.*)

The Libyan people were called , and Prof. Maspero has shown[10] that this ethnic name was often used synonymously with that the one name could in fact be used for the other. The full significance of this has not yet been recognised. The Northern Delta was called , *Ṯa-meḥ*, "Flax-land," and the people of this "Flax-land" were apparently known as , for a variant of the name of a queen[11] of the Early XVIIIth dynasty 

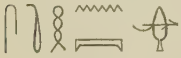
Aāḥmes Hent ta-meḥ, "Ahmose, Mistress of Flax-land," is

Aāḥmes Hent-ṯemeḥu, "Ahmose, Mistress of the *Ṯemeḥu*-people." The centre of the flax-weaving industry in Egypt was Sais in the Western Delta, and this city appears to have been the capital of "Flax-land" at the time immediately preceding the Ist dynasty. Neith of Sais has generally been recognised as a Libyan goddess; the people of Sais were undoubtedly Libyan in origin; at Sais was the , "Temple of the Bee (or Hornet)"; and the title of the kings of , "Flax-land," was , *bati*, which, as Prof. Petrie has pointed out (*Royal Tombs*, I, p. 36), was very probably the Libyan royal title. The kings of Egypt mentioned on the

Palermo Stone are figured as wearing the -crown of Neith, and it was by his marriage with Hetep, the chieftainess of Sais, that Narmer-Menes united the two kingdoms of Egypt under his sole authority.[12] The kingdom which Narmer-Menes conquered was therefore the *Libyan* kingdom of Lower Egypt.

Notes.

[1] See my paper on "The Wooden and Ivory Labels of the First Dynasty," in the *Proceedings of the Society of Biblical Archaeology*, 1912, pp. 288.

[2] Although we find no direct mention of this *tehenu*-tree in later texts it is interesting to note that we have a reminiscence of the name in the word  found in the "Papyrus Harris," VIII, 4.

[3] Beyond the fact that the word-sign for the name of this oil-producing tree is a club, we have as yet no other Egyptian evidence on this point, but it is worth noting that Theocritus mentions that the Cyclop's club was of olive wood, and Pausanias (ii, 31, 10) remarks that it was from the club of Hercules that the wild olive sprang. Classical writers also mention that olive wood was the favourite wood for making the handles of axes and tools and in this connection note the colouring of the adze-sign figured in *Beni Hasan*, III, Pl. V, No. 73.

[4] Petrie, *Medum*, Pls. XIII and XV.

[5] Herodotus, for instance, understood by the name Libya sometimes the whole of ancient Africa (IV, 42), sometimes Africa exclusive of Egypt (II, 17, 18; IV, 167).

[6] See L. Borchardt, *Das Grabdenkmal des Königs Sahu-re*, Band II, Bl. 1. It is interesting to compare that plate with the scene on the fragment of the Slate Palette shown in Fig. 1. The Slate Palette very probably recorded an early king's captures in Olive-land.

[7] See *Hierakonpolis*, I, Pl. XV.

[8] Muller-Didot, *Fragmenta Historicum Graec.*, II, pp. 539, 540.

[9] *Liverpool Annals of Archaeology and Anthropology*, I, pp. 20, 21.

[10] Maspero, *Sinouhit*, p. XXX, 2.

[11] Maspero thought these names indicated two different princesses, but Daressy has shown in the *Annales du Service*, IX, pp. 95, 96, that they refer to one and the same princess.

[12] See my paper "To what Race did the Founders of Sais belong?" in the *Proceedings of the Society of Biblical Archaeology*, 1906, pp. 68–70.

The Mother of Hatshepsût.

In the preceding paper I have mentioned a queen named Ahmose Hent-ta-meḥ and Ahmose Hent-ṯemeḥu. Her name is written variously:—

(1) . Maspero, *Les Momies royales, p.* 543.

(2) . (*Ibid.*, p. 544.)

(3) . (*Ibid.*, p. 544.)

(4) . (Daressy, *Ann. Serv.*, ix, p. 95.)

(5) . Lepsius, *Denkmäler*, iii, 8 *a*.

(6) . Lepsius, *Denkmäler*, iii, 2 *a* (cf. *d*).

Fig. 5. Queen Ahmose, Deir el-Bahri.
(*From a Painting by Mr. Howard Carter.*)

From No. 2 it will be observed that Ahmose was this princess's principal name, and that she was "called" Hent-ṯemeḥu, the latter name was, therefore, a secondary one. Now we cannot believe that this secondary name, which means "Mistress of the Ṯemeḥu," was meaningless. She must certainly have had some connection with the Ṯemeḥu people of the North, and this connection was probably through her mother Anhapi, who is described as a

King's Daughter, but whose parentage we do not know. The titles given above show that this Ahmose was a King's-Daughter, a King's-Sister, a King's-Wife, and a Great King's-Wife. All the evidence regarding her goes to show that she was a daughter of King Ahmose I, and this point has been granted by all Egyptologists. Now if she was a King's-Daughter in virtue of her being a child of Ahmose I, she was, therefore, a King's-Sister in virtue of her being a [half-]sister of Amenhetep I. But the question arises, Was she the latter king's wife? There is no evidence to show that she was. On the other hand the successor of Amenhetep I was Thothmes I, and his claim to the throne of Egypt was made good by his marriage to a Princess Ahmose. This Princess Ahmose is usually taken to be a daughter of Amenhetep I, but there is no evidence whatever for this assumption. The queen of Thothmes I was famous as the mother of Hatshepsût, and she is described on the walls of the Deir el-Bahri temple as "King's-Sister," "Great King's Wife," "King's-Mother." The King's-Sister title would refer to her being [half-]sister to Amenhetep I, Great King's-Wife to her being queen of Thothmes I, and King's-Mother to her being mother of Hatshepsût. She was also "Great Heiress," and it was in virtue of this latter position that her husband made valid his claim to the throne. Now as we have no evidence of a daughter of Amenhetep I being named Ahmose, and as we know of a daughter of King Ahmose I bearing the name, and that this daughter was also a Great King's-Wife, I suggest that the celebrated Queen Ahmose, the mother of Hatshepsût, was really the Ahmose, daughter of King Ahmose I, who was called "Mistress of the Ṯemeḥu." A fact that lends colour to this theory is that her daughter, Hatshepsût, clothed herself in male attire, which seems to have been a custom with Libyan chieftainesses. It is true that we know very little about the Libyan people as yet, but it is remarkable that on the Sahure Reliefs (see Fig. 4) the Chiefs' women are clothed in male dress: and a tile from Medinet Habu shows a Libyan woman wearing the regular male kilt and robe (see Oric Bates, *The Eastern Libyans*, p. 113). Perhaps Hatshepsût, when she adopted male attire, was only following in the footsteps of her mother's ancestors.

PERCY E. NEWBERRY.

MULTIPLE SOULS IN NEGRO AFRICA.

To the twenty-three headings connected with death and burial under which Prof. Petrie discusses the relation of Egypt to Africa (*Egypt in Africa*, ANCIENT EGYPT, 1914, III and IV), I should like to add yet one other, viz., the belief that the individual is constituted of a number of incorporeal elements, one of which is usually the "double." For brevity I propose to call this the doctrine of "multiple souls." Its existence in ancient Egypt is so well authenticated that I shall make no further reference to this; but it is less commonly recognised that it is held in Africa at the present day.

I do not suggest that the following examples constitute even a moderately complete list of the instances already recorded: I only give some of the more striking examples. It will be noticed that the literature from which these are taken is quite recent, no doubt because it is only within the last few years that an interest has been taken in the subject, but going a little further back, Colonel Ellis' works suggest that the belief exists among the tribes of the Guinea Coast, although full details are not given.

The following account is taken from the latest of Ellis' volumes:—[1]

"The Tshi-speaking people believe that every man has dwelling in him a spirit termed a *kra*, which enters him at birth and quits him at death, and is entirely distinct from the soul, which, at the death of the body, proceeds to the Land of the Dead, and there continues the life formerly led by the man in the world. . . . . The Ewe-speaking peoples have a similar belief, the indwelling spirit being by them termed a *luwo*. The Gã-speaking tribes, situated geographically between the Tshi and Ewe tribes, ... assign to each individual two indwelling spirits, called *kla*, one male and one female, the former being of a bad and the latter of a good disposition. Each *kla*, like the *kra* and the *luwo*, is a guardian-spirit, but . . . . . they give good and bad advice, and prompt good or bad actions, according to their respective dispositions. The Yorubas . . . . . hold that each man has three spiritual inmates, the first of whom, *Olori*, dwells in the head, the second, *Ipin ijeun*, in the stomach, and the third, *Ipori*, in the great toe.

"*Olori* . . . ., sometimes called *Ori* (head, faculty, talent), seems to be the spirit which answers to the *kra* or *luwo*. He is the protector, guardian and guide. Offerings are made to him, chiefly fowls, as with the *kra* and *luwo*, and some of the blood, mixed with palm-oil, is rubbed upon the forehead. *Olori* brings good-fortune. . . . . .

"*Ipin ijeun*, or *ipin ojehun*, ... 'he who shares the food,' is perhaps considered the most important of the three indwelling spirits, but as he shares in all that the man eats, he has no special sacrifice offered to him. . . . . .

"*Ipori*, [in] the great toe, is the least important of the three guardian spirits, and sacrifice is rarely offered to him, except when a man is about to set out on a journey, in which case he anoints the great toe with a mixture of fowl's blood and palm-oil. . . . . .

"The ghost-man, or soul, the 'vehicle of individual personal existence,' is called *iwin*, or *okan*, but the latter also means 'heart.' Another word is *ojiji*, or

[1] *The Yoruba-Speaking Peoples of the Slave Coast of West Africa* (1894), pp. 124 *sqq.*

oji, which has the meanings of ghost, shade, or shadow. After the death of the body, the ghost-man goes to *Ipo-oku*, 'the Land of the Dead' (*ipo*, place; *oku*, dead), which is beneath the earth, and where each man does that which he has been accustomed to do, and holds the same social position as he did in the world. To enable the ghost to reach this land it is essential that he should have the prescribed funeral rites performed over him. Should they be omitted, the ghost wanders about the world, cold, hungry, and homeless, and he runs the risk of being seized by some of the evil spirits which roam about the earth in great numbers, and cast by them into *Orun-apadi*, 'the unseen world of potsherds,' an uncomfortable place like a pottery furnace, heaped up with charcoal and the *débris* of broken earthen pots."

To the north, among the Hausa of Nigeria, somewhat similar beliefs prevail, complicated, however, by Arab influence. Major Tremearne's account shows that the visible body contains "the soul," *kuruwa*, distinct from the "shadow," *ennuwa*, and the "life," *rai*, "the former being situated in the heart, the latter wandering at will all over the body." In addition there is "the familiar, bori, of the same sex, a kind of second soul, ... it acts as an intermediary between its human host and the denizens of the jinn country." This *bori* "is like the being to which it belongs, but it is outside him, and casts no shadow, and it is really a double. . . . It . . . wanders when the owner sleeps . . . though it does not necessarily go in company with the soul, ... Its duty is to protect the being from injury by another bori, and 'if it is stronger than the enemy, all you will know is that you feel tired on account of the struggle; but if weaker, it will be worsted, and you will become ill.'"[1] Moreover, "from about puberty until marriage, most Hausas have another bori, but of the opposite sex, with which they have relations, and when a boy or girl thinks of marriage he or she must consult his or her female or male bori, for it does not like being ousted by a human rival. . . . . Lastly, there are two angels, one hovering above the right shoulder, the other over the left, which record the good and evil thoughts of the person to whom they are attached."[2]

The doctrine of multiple souls is widely spread in the Congo area. Mr. R. E. Dennett gives the following account of the beliefs of the Bavili, a Bantu-speaking tribe of Luango, the northern portion of the Congo coast district. They hold that man consists of the following elements:—

The *ximbindi*, or "revenant," a visible element which stays in the house after death, and then lives in the forest.

The *xidundu*, "shadow," which sleeps in the body of its owner; it enters and leaves the body by the mouth, and is likened to the breath (*muvu*) of man. When a man swoons it is because a sorcerer has taken his *xidundu*.

The *nkulu*, "soul," the "guiding voice of the dead." The *nkulu* prefers to dwell in the head of a near relative. It seems that a *nkulu* may be present in the earth taken from a grave, and it is the *bakulu* of ancestors that cause women to bear children and babies to sicken.

The *xilunzi*, also called *ndunzi*, the "intelligence," dies with man.[3]

It seems probable that the *xidundu* is a "double," but it is not always easy to be sure of Mr. Dennett's meaning.

Among the tribes, as far as we know them, inhabiting the area drained by the southern affluents of the Congo, the problem presented by man's nature has

[1] A. J. N. Tremearne, *The Ban of the Bori* (1914), pp. 19, 136, 137.
[2] A. J. N. Tremearne, *op. cit.*, p. 19.
[3] *At the Back of the Black Man's Mind* (1906), pp. 79–82.

resulted in the recognition of at least two immaterial parts. Of these, one, which does not leave the body during life, is usually connected with one of the vital organs, *e.g.*, with the heart, *mityima*, by the northern Bambala, and with the liver, *m'tim*, by the Babunda. Another element is described as a sort of double which may leave a man when asleep, may visit his friends and have all manner of adventures. Moreover, there is frequently confusion between the spiritual *mityima* or *m'tim* and the viscus which bears the same name; thus, one of Mr. Torday's informants argued that it could not be true that a man's *m'tim* went away when he died, "have dead goats and chickens no livers?" For this information—hitherto unpublished—I am indebted to Messrs. Torday and Joyce from whose writings the following example is taken:—

The Bahuana, inhabiting the banks of the Kwilu, an affluent of the Kasai which itself enters the Congo, say that three elements enter into the composition of man; the body, the "soul" called *bun*, and the "double" called *doshi*. The word *bun* also means "heart."

"The *bun* of a dead man . . . . . can appear to other men . . . . . ; the *bun* is seen in human form and appears to be composed of a white misty substance. . . . . The *doshi* is a shadowy second self. . . . . It leaves the body in sleep and visits other people in dreams; the *doshi* of the dead appears to the living in the same manner. All people have *doshi*, but only the adult have *bun*. . . . . Animals have *doshi* but not *bun*. At death the *bun* disappears, no one knows whither; but the *doshi* lingers about in the air, visits its friends and haunts its enemies; it will persecute the relations if the body has not received proper burial. . . . . Fetishes have *doshi* but no *bun*; plants and weapons have neither."[1] Similar beliefs are held by the Batetela and Bankutu. The former consist of a number of related tribes spread over the Lubefu and Lukenye basins between 23° and 25° E. The Bankutu are a neighbouring tribe to the west.

"Beside the body, called by the Sungu *dimba*, the Batetela believe that man is composed of two spiritual elements: a shadowy double, called by the Sungu *oloki* and by the Olemba *do*, and a 'soul' (literally, 'heart'), called by the Sungu *idimu*. . . . . The 'double' is invisible, except in dreams, it leaves the owner's body without his knowledge, and no harm is caused by its absence. The 'soul' leaves the body only at death. In sleep the 'double' may be absent, but the 'soul' remains with a man as long as he lives. All people, even new-born infants, possess 'souls,' and these are indestructible; neither animals nor plants possess them. The *idimu* of the unburied dead visit their relatives in dreams to remind them of their duties, and, in the same way, the *idimu* of a deceased chief, if it desires anything, is supposed to appear in a dream to the elder who on a former occasion invested the chief with a leopard-skin at his inauguration; the elder so visited informs the village and the wants are supplied.

"Homeless *idimu* remain in the air and haunt the neighbourhood of the village; it happens sometimes on a dark, moonless night, that a man will feel the presence of some being near him; it is impalpable, for he cannot seize it if he tries; this is an *idimu*. . . . . It is to provide accommodation for the *idimu* that small huts are built over graves, and a clever device to keep them from wandering at night is to kindle small fires in the huts, for, if this is done, the *idimu* will remain there and warm themselves instead of ranging over the fields."[2]

[1] "Notes on the Ethnography of the Ba-Huana," *Journal of the Anthropological Institute*, Vol. XXXVI (1906), pp. 290, 291.

[2] These two paragraphs are from MS., as yet unpublished, lent me by Messrs. Torday and Joyce.

Among the Bankutu the incorporeal part of man is believed to be composed of two elements, a soul, *edimo*, and a shadow *jinjingi*. The latter perishes with the body, but the former is re-incarnated in the first child, boy or girl, born to a sister of the deceased after his death. The *edimo* is evidently the same as the *idimu* of the Sungu and the *ejimo* of the Olemba. The Bankutu, however, seem to regard the continued existence of the *edimo* as in some way bound up with the reception of proper burial, since dead slaves are always eaten but never buried. The reason given for this is that the soul of a slave who had been buried might return and kill the master in revenge for past injuries, whereas, if the body had been eaten he could not do so.[1]

Perhaps the greatest development of this doctrine is to be found among the Bambala, the chief sub-tribe of the Bushongo, whose territory lies between the Kasai and Sankuru rivers.

The Bambala say "that man is composed of four parts, the body, *lo*, the double, *ilo*, the soul, *n'shanga*, and the shadow, *lumelume*. At death the *n'shanga* seeks the uterus of a woman . . . . . and is born again in a child, who may remember things known alone to the former owner of the soul. Some wicked people have a fifth element, *moena*, ... which leaves the body at death and continues to do evil, causing others to sicken or die . . . . . ; only the spirits of old men can haunt others."[2]

Unfortunately not much is said about the powers and actions of the "double" and of the "shadow," but some further information is given about the Eastern Bushongo (Bangongo and Bangendi) who hold that man consists of four parts, the body, *modyo*, the mind, *mophuphu*, the double, *ido*, and the shadow, *edidingi*. A dying man's last breath is also called *mophuphu* and when this, the *ido* and the *edidingi* leave a man he dies (the corpse is supposed not to have a shadow). No harm results from the absence of the *ido* from the body, in fact, it leaves it to appear in dreams.

The authors state that "Ordinarily the soul returns to Jambi [the creator]," but do not indicate which of the constituent elements they regard as the soul.

It will be noted that the instances given have all been drawn from West Africa where the belief is widely spread; it has not, as far as I know, been found in anything like its typical form in Eastern Africa, nevertheless, the Nilotes have certain beliefs which may be faint reflections of the doctrine, though I do not wish to press this point. The Dinka believe that every human being has within him two souls. The *atiep*, which leaves the body in sleep and whose wanderings are the common source of dreams, resembles, or perhaps may take, the form of the shadow. The second "soul" is by no means so well defined as the *atiep*, it is sometimes called *rol* and sometimes *we*. I could not learn anything definite about the *rol* during life; it may be connected with the vegetative functions of the body, but after death it remains with the body in the grave.

The Shilluk recognise two immaterial parts of man called *wei* and *tipo*, the former meaning "breath," or "life," the latter "shadow."

C. G. Seligman.

[1] From the M.S. already cited.

[2] E. Torday and T. A. Joyce, "Notes Ethnographiques sur les Peuples Communément appelés Bakuba, ausi que sur les Peuplades Apparentées les Bushongo," in *Documents Ethnographiques concernant les Populations du Congo Belge*. Tome II, Fasc. I. Bruxelles, 1910.

LEADEN TOKENS FROM MEMPHIS.

EGYPT has furnished a considerable number of stamped pieces of lead, in form roughly resembling coins, and clearly belonging to the Graeco-Roman period. So far as my observation goes, these may be divided into the following general classes.

1. *Direct and presumably fraudulent imitations of silver or bronze coins.*—The commonest of these are copies of Ptolemaic bronze coins of the second and first centuries B.C.; others reproduce the issues of towns or rulers outside Egypt of about the same or earlier date. To this class appear to belong a few examples of what may be termed hybrid types, where the designs for the Obverse and Reverse are derived from different localities, but the evident intention has been to produce something which might be taken for a coin. So far as I have been able to examine specimens of this class they are all of Ptolemaic date. One of this class occurs here.

Obv. :—Head of Ammon *r.*

Rev. :—Two eagles standing *l.*: to *r.* cornucopiae. [17 mm.]

This is the only example in the collection of a direct copy of a Ptolemaic coin, probably intended as a forgery; the Reverse should bear the legend ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ, but this cannot be read. The coin copied is one of the commonest of the Ptolemaic series—a copper pentadrachm, usually attributed to Euergetes II or Soter II, but, in my opinion, probably struck under all the kings from about 150 B.C. to about 50 B.C. (cf. *Liverpool Annals*, I, p. 38).

2. *Token-currency of Roman times.*—This class includes a very large number of varieties, the great majority of which are of flat and rather thin fabric, bearing types of the same general kind as those found on the coins of the Alexandrian mint; it would, however, be impossible to regard them as fraudulent copies of these coins, as their shape is quite distinct from that of any of the official issues. I described a considerable collection of pieces of this class, derived from the excavations of Drs. Grenfell and Hunt at Oxyrhynchus, in the *Numismatic Chronicle* for 1908, p. 287; and in that article I stated the conclusion that these leaden tesserae were a token-currency issued locally in various districts of Egypt in the second and third centuries A.D. to supply the need of small change, since the Alexandrian mint had ceased to strike coins of low denomination. This conclusion is supported by all the further evidence which has since come to light; the only additional point to be specially noted is that all the examples whose *provenance* I have been able to trace come from Middle Egypt, with the inclusion of Memphis; and, so far as the types used have any local association, the majority of them belong to the same district.

3. *Another class of tokens, apparently, but of different style.*—These are generally smaller and more dumpy in shape than those of Class 2, and the average of execution is worse; the types used, also, are not so closely related to those of the official Alexandrian coins. So far as my information goes, this dumpy class is mainly found in the Delta; at any rate, it was not represented in the extensive finds at Oxyrhynchus, while more specimens seem to come into the market at Alexandria than at Cairo. The evidence, however, is really insufficient for any definite conclusion; my present presumption is that this class took the place in

the Delta which was held in Middle Egypt by Class 2. It may be added that I am not aware of any leaden tokens having been found in the Thebaid.

4. *Seal impressions.*—These are mentioned here because some examples are described in catalogues with pieces of the three preceding classes. Their resemblance to coins is really accidental, and quite superficial; they are stamped on one face only, the other often showing traces of the object upon which the lead was placed, but it sometimes happens that the lump of lead has approximated in form to a coin. There is no difficulty in distinguishing them from the tokens.

5. *Amulets.*—In some cases amulets were made in the shape of a coin, usually, however, furnished with a loop for suspension; they can readily be distinguished from the ordinary classes of leaden tokens by their types. Conversely, actual coins were sometimes used as amulets, or at any rate carried in the same manner.

The last two classes may be disregarded for present purposes.

In my paper on the Oxyrhynchus tokens I identified a number of specimens as probably local issues of Oxyrhynchus, and at the same time I suggested that further information from the discovery of examples on other sites might make it possible to assign other groups of tokens to their places of issue. The collection made by Prof. Petrie at Memphis, which he has kindly allowed me to examine, throws some useful light on certain groups, especially of Class 2; and it will be convenient to treat these groups separately.

A. MEMPHITE.—The existence of leaden pieces bearing the name of Memphis has long been known, and specimens are not uncommon. To the description of the examples in the Petrie Collection may be added those in Signor Dattari's Catalogue to give an idea of the range of types; the latter will be denoted by their numbers in the catalogue, preceded by D. The descriptions and illustrations of the specimens in the Demetrio Collection given in Feuardent's Catalogue are too sketchy to make identification certain. The figures here are enlarged one half.

The ordinary type of the Memphite leaden tokens is:—

(1) *Obv.*:—Nilus seated *l.* on rocks, drapery round legs, holding in *r.* hand reed, on *l.* arm cornucopiae: facing him, Euthenia standing *r.*, wearing long robe, holding out in *r.* hand wreath: border of dots.

Rev.:—Isis-Hekate standing to front, with triple face, crowned with horns and disk, wearing long robe, holding on *r.* hand uraeus erect: to *r.*, Apis-bull standing *l.*, with disk between horns: above, to *r.*, **ΜΕΜΦΙC**: border of dots or line. [Petrie Coll.: three specimens, 22–24 mm.]

Feuardent 3596 may be an example of this type.

The Obverse type is one of the regular Alexandrian series. The figure of the triple-faced Isis-Hekate is unusual, though it occurs in statuettes; the Apis-bull is really the standing Memphite type. Dattari describes five specimens which show minor variations, as follows:—

(2) *Obv.*:—As (1): by rocks, crocodile *r.*

Rev.:—As (1), but legend **ΜΕΜΦΗC**. [Petrie Coll.: 24 mm. D. 6416, 6417: 26 and 24 mm.]

Dattari identifies the female figure on the Obverse as Alexandria, but it seems to me to be more probably intended for Euthenia. He also mentions a serpent in the field behind Euthenia on the Obverse, and another above Apis on the Reverse; these are discernible on some examples, and possibly were originally present on others; but the poor average of preservation makes it difficult to be certain as to small details.

(3) *Obv.*:—As (1).

Rev.:—As (1), but behind Isis a small figure grasping her robe. [D. 6418: 27 mm.]

(4) *Obv.*:—As (1), but Euthenia holds two ears of corn in her *l.* hand.

Rev.:—As (3), with ansate cross between Isis and Apis. [D. 6419: 23 mm.]

(5) *Obv.*:—As (1), with sixteen genii in the field in various altitudes.

Rev.:—As (3), with a figure of Ptah-Sokar-Osiris standing *l.* to *r.* of Apis: legend arranged in two lines ΜΕΜ / ΦΙC. [D. 6420: 28 mm.]

The last mentioned is the only one in which the variations are of material importance; the addition of the sixteen genii, referring to the sixteen cubits rise in the Nile required for a good inundation, is very rare on Alexandrian coins. There is one more piece, of smaller size, with the name of Memphis and generally similar types.

(6) *Obv.*:—As (4).

Rev.:—Isis standing to front, head *r.*, crowned with horns and disk, holding out on *r.* hand uraeus crowned with disk; to *r.*, Apis bull standing *l.*, with disk between horns, on base decked with garlands: between Isis and Apis, a disk; above, to *r.*, ΜΕΜΦΙ. [D. 6421: 18 mm.]

In addition to the pieces with the name of Memphis, there are others which can certainly be attributed to the same locality, in view of the types used.

(7) *Obv.*:—As (1).

Rev.:—As (1), but without legend: above Apis, small winged figure *l.*, holding out wreath over the head of Isis: border of dots. [Petrie Coll. D. 6492: 24 mm.]

(8) *Obv.*:—As (1), but behind Euthenia a small figure *r.* with hand raised.

Rev.:—As (7), but instead of winged figure, disk and uraei over Apis. [D. 6493: 20 mm.]

(9) *Obv.*:—As (8).

Rev.:—As (7), but above Apis Harpokrates standing holding branch (?). [D. 6494: 20 mm.]

(10) *Obv.*:—Nilus seated *l.* as (1): facing him, Euthenia seated *r.* holding in her *r.* hand ears of corn towards Harpokrates standing *l.*, crowned with *skhent*, *r.* hand to mouth: line border.

Rev.:—Isis seated *r.*, crowned with disk and horns: to *r.*, Apis-bull standing *l.*, with disk between horns: behind Apis, Horus (?) standing *l.*, holding out on *r.* hand small figure of Harpokrates *l.*: above, disk: line border. [D. 6495: 20 mm.]

(11) *Obv.*:—As (10), but Harpokrates holds lotus-flower in *l.* hand.

Rev.:—As (10), but figure behind Apis appears to be Ptah holding out uraeus. [Petrie Coll.: 17 mm. D. 6496: 20 mm.]

(12) *Obv.*:—As (10).

Rev.:—Isis standing to front, with both arms raised, sistrum in *r.* hand. [D. 6497: 20 mm.]

(13) *Obv.*:—As (1).

Rev.:—Sarapis (?) standing *l.*, crowned by Nike *l.*, in field, B: border of dots. [Petrie Coll.: 20 mm.]

(14) *Obv.*:—As (1): beside Nilus, hippopotamus *r.*

Rev.:—Figure seated *r.* with *r.* hand outstretched to Apis-bull standing *l.* on base decked with garlands: in field above Apis, serpent *l.* [D. 6505: 13 mm.]

(15) *Obv.*:—As (1).

Rev.:—Figure (priest?) standing *l.*, holding out in *r.* hand serpent: before him, Apis-bull standing *r.*, with disk between horns: above, to *l.*, crescent: border of dots. [Bibliothèque Nationale, Rostovtsew and Prou No. 677: 18 mm.]

I am not prepared to say to which type Feuardent's No. 3597 belongs: the Obverse is as (1), the Reverse is described as a male figure walking *r.*, leading Apis with *r.* hand, and holding a serpent-staff in *l.* If this description is correct, the Reverse type would appear to associate Asklepios with Apis; this is quite possible at Memphis, where Asklepios was worshipped by the Greeks as identified with Imhotep.

B. Oxyrhynchite.—There are in the Petrie Collection a few examples of types found commonly at Oxyrhynchus and described in my article cited above. The presence of such examples is not extraordinary, as the tokens need not have been confined for circulation to the district where they were issued; or they may have drifted after discovery.

The types specially characteristic of Oxyrhynchus are a bust or figure of Athene on the Obverse and a figure of Nike, sometimes with the letters **OΞ**, on the reverse. The specimens in the Petrie Collection are of the following types, assigning the numbers as in my previous article:—

(1) *Obv.*:—Bust of Athene *r.*, wearing crested helmet, and draped: rough oval border of thick line.

Rev.:—Nike advancing *l.*, wearing long chiton with diplois, holding out wreath in *r.* hand, in *l.* palm over shoulder: in field to *l.* $\frac{\text{O}}{\Xi}$: rough oval border of thick line. [25 × 20 mm.]

(2) *Obv.*:—As last, with border of dots.

Rev.:—As last, without letters in field, and border of dots. [16 mm.]

(4) *Obv.*:—Bust of Athene as (1): in front, spear upright: border of dots.

Rev.:—As (2). [Two specimens: 20 mm.]

(7) *Obv.*:—Athene advancing *r.*, wearing crested helmet, chiton, and peplos, with small shield on *l.* arm and spear raised in *r.* hand, attacking serpent erect *l.* in front of her: border of dots.

Rev.:—As (1), with border of dots. [18 mm.]

(8) *Obv.*:—As last.

Rev.:—As last, but Nike *r.* [25 mm.]

In this specimen Athene appears to hold a bipennis instead of a spear, which is a variation on the ordinary type.

(14) *Obv.*:—Eusebeia standing *l.*, wearing chiton and peplos, holding in *r.* hand patera over altar; in *l.*, cornucopiae: border of dots.

Rev.:—As (2). [Four specimens: one 16 mm., three 15 mm.]

This type, though not distinctively Oxyrhynchite, might, I thought, be assigned to the local issues, on account of the large numbers of specimens—44—found at Oxyrhynchus.

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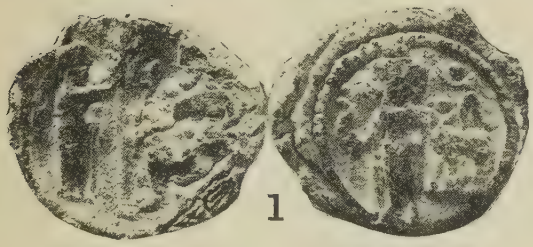
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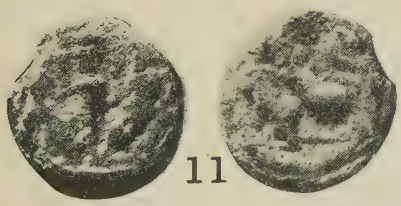
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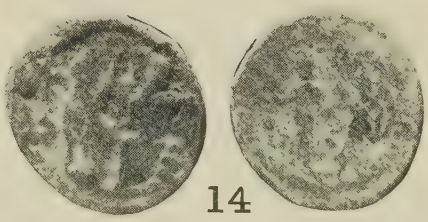
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A. MEMPHITE

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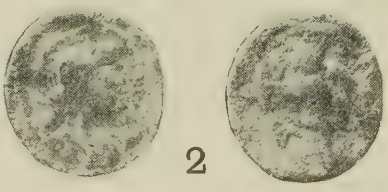
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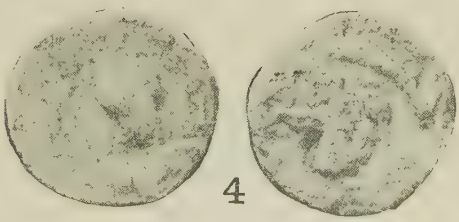
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B. OXYRHYNKHITE

C. HERMOPOLITE (?)—Several specimens, of rather poor style, may be grouped together on the strength of their types. In this group are included :—

(1) *Obv.* :—Hermanubis advancing *r.*, both arms outstretched; to *r.*, caduceus : border of dots.

Rev. :—Hermes-Thoth standing *l.*, crowned with modius, wearing himation, holding out purse in *r.* hand, caduceus on *l.* arm; above *r.* hand, ibis *r.* : border of dots. [19 mm.].

(2) *Obv.* :—As (1).

Rev :—As (1), but without purse, and, apparently, without ibis; below *r.* hand, baboon seated *l.* [20 mm.]

To this group belong some pieces in Dattari's Catalogue; 6523, with the same Obverse type as (1) and (2), and for Reverse type a bust of Kronos; 6522, the Obverse of which seems very like the Reverse of (2), with a temple containing two figures on the Reverse : and 6521, the Obverse of which resembles the Reverse of (1), while the Reverse has a nude male figure standing *r.*

(3) *Obv.* :—Hermanubis standing *l.*, wearing modius, *r.* hand outstretched, caduceus on *l.* arm : border of dots.

Rev. :—Male figure standing *l.*, *r.* hand outstretched over bird; in field above, ⌊ ⌈ : border of dots. [20 mm.]

This type, like (1) and (2), presumably comes from a centre of the worship of the Graeco-Egyptian Hermanubis, confused with the Egyptian Thoth equated with Hermes. It bears a date, but in style is very much rougher than the ordinary kind of dated tokens which are discussed below. Two other specimens appear to have Hermes types.

(4) *Obv.* :—Hermes standing *l.*, holding out purse in *r.* hand, resting *l.* on staff : border of dots.

Rev. :—Nilus reclining *l.*, holding reed and cornucopiae, drapery over legs; below, crocodile *r.* : border of dots. [19 mm.]

(5) *Obv.* :—As (4).

Rev. :—Euthenia standing *l.*, wearing modius, holding two ears of corn and cornucopiae : border of dots. [22 mm.]

Dattari's 6480 and 6481 are similar to (4); and in the same group may be included his 6519 and 6520, the Obverse type on both of which is Hermanubis standing *r.*, with a caduceus in front; the Reverse types being respectively Dikaiosyne and Tyche standing in the attitudes usual for these personifications on Alexandrian coins. These connect with the next.

(6) *Obv.* :—Bust of Hermanubis *r.*, wearing modius with lotus-petal in front, and chlamys : by *l.* shoulder, caduceus : border of dots.

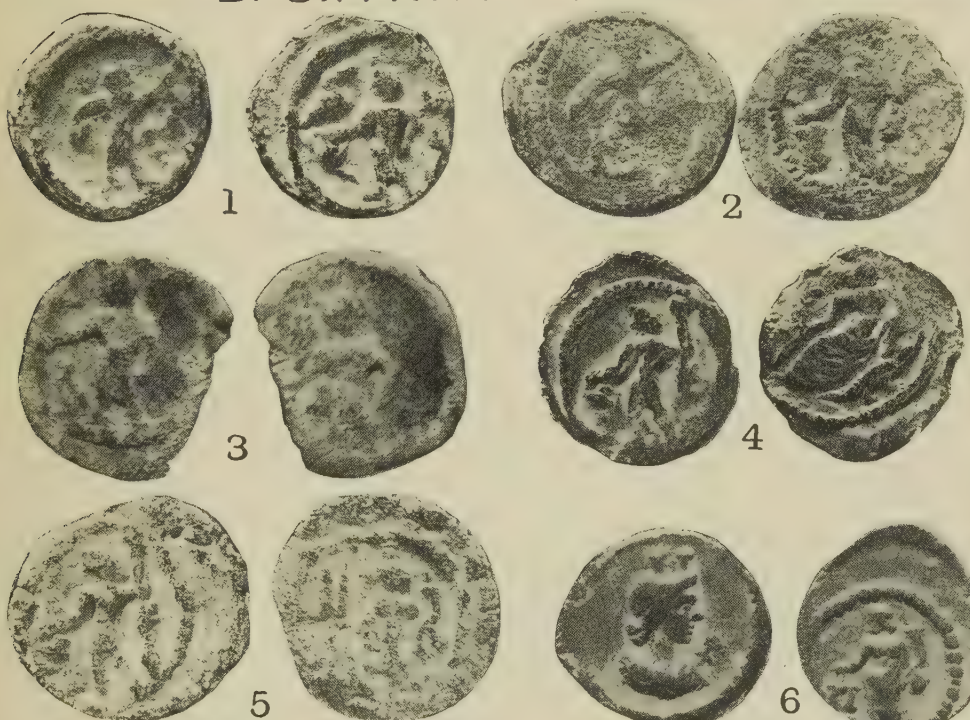
Rev. :—Dikaiosyne standing *l.*, holding scales and cornucopiae : border of dots. [Two specimens : 18 mm.]

(7) *Obv.* :—Bust of Hermanubis *r.*, with lotus-petal on head; behind shoulder, winged caduceus : border of dots.

Rev. :—Bust of Isis-Demeter *r.*, draped, wearing modius; in front, torch : border of dots. [20 mm.]

The Obverse type of the last two is apparently very similar to that of Dattari's 6478 and 6479, the former of which has on the Reverse a bust of Nilus; the latter, Nilus seated *l.*, with Euthenia below and four genii in the field.

B. OXYRHYNKHITE



C. HERMOPOLITE

There are two other pieces which may be intended to have representations of Hermes or Hermanubis somewhat similar to (1).

(8) *Obv.* :—Hermes (?) advancing *r.*, with both arms outstretched: to *r.*, vase (?): border of dots.

Rev.: Nilus reclining *l.*, holding reed and cornucopiae: border of dots (?). [23 mm.]

(9) *Obv.* :—Hermes (?) advancing *l.*, with both arms outstretched.

Rev. :—Nilus reclining *r.* [19 mm.]

It seems reasonable to suppose that these tokens, characterised by Hermes-types and of a style which apparently belongs to Middle Egypt, originate from the main centre of the worship of Hermes in that district—Hermopolis Magna (Ashmunên). The original form of the Hermes-cult there was that of Hermes as equated with Thoth; but the Greek Hermes was so generally absorbed into the Alexandrian Hermanubis that the appearance of the latter, who represented a distinct equation of Hermes with Anubis, in a home of the Hermes-Thoth worship is not really unnatural.

Following this clue, two of the specimens in the Bibliothèque Nationale described in Rostovtsew and Prou's Catalogue ("Plombs Antiques de la B.N.," § VIII, in *Revue Numismatique*, 1899) may be added to the Hermopolite group; these are No. 668, with Obverse three-quarter length figure of Nilus reclining *l.*, holding reed and cornucopiae, Reverse baboon seated *l.* with disk on head and caduceus in fore-paws, in field to *r.* ⌊Γ; and No. 672, with similar Obverse, Reverse, ibis standing *r.* with caduceus in background: in field L B[1] Feuardent's No. 3607*bis* is the same as 672, except that the caduceus is not mentioned in the description. This last is very similar in motive to D(2) below, which may also be Hermopolite.

D. Dated Types.—There are a few of the dated tokens, which, as pointed out in my previous article, usually bear types connected with Nilus, and are of rather better style than the majority of these leaden pieces. The specimens here are as follows:—

(1) *Obv.* :—Nilus reclining *l.*, holding reed and cornucopiae, drapery over legs: beneath, crocodile *r.*: border of dots.

Rev. :—Three ears of corn, bound together: in field, L Δ: border of dots. [Two specimens: 22 mm.: = D. 6456.]

(2) *Obv.* :—Nilus seated to front, head *l.*, holding reed and cornucopiae, on hippopotamus (?) *r.*: border of dots.

Rev. :—Ibis standing *r.*: in field, L Є: border of dots. [21 mm.]

(3) *Obv.* :—Nilus seated *l.*, holding reed and cornucopiae: before him, Euthenia standing *r.*, holding out crown: border of dots.

Rev. :—Osiris standing *r.*, mummiform, and Isis standing *l.*, with *r.* hand raised and sceptre in *l.*: between, LIB: border of dots. [19 mm.]

(4) *Obv.* :—Three-quarter length figure of Nilus reclining *l.*, holding reed and cornucopiae: line border.

Rev. :—Head of Zeus Ammon, crowned with disk: in field L B (?): line border. [18 mm.]

[1] I have transposed the Obverse and Reverse in Rostovtsew and Prou's descriptions, as it is usual to find the date on the Reverse of Egyptian coins of this period.

(5) *Obv.*:—Bust of Harpokrates (?) *r.*, wearing *hemhem* crown: line border.

Rev.:—Bust of Horus *r.*, wearing *skhent*: in field L (?): line border. [19 mm.]

These dated tokens I was formerly inclined to ascribe to Alexandria, in view of the general superiority of their style and the official touch given by the use of a date. They are found sporadically on all Roman sites in Middle Egypt of which I have any information: and, as noted above, the whole class to which they belong may probably be located in Middle Egypt. I should now, therefore, prefer to abandon the ascription to Alexandria, especially as one of those described above (C 3) and the two Paris specimens mentioned at the end of C seem to fall into the Hermopolite group. If those which are of specially good workmanship are to be regarded as coming from any one town in Middle Egypt, I would suggest that this town was probably Antinoe, which, in the period when these tokens were being issued, was the chief centre of art in Egypt outside Alexandria.

The attribution to Antinoe is supported by some specimens in the Bibliothèque Nationale, if Rostovtsew and Prou's identification of the heads on them is correct: they describe Nos. 665–6 as having on Obverse Nilus seated *l.* on hippopotamus (compare D (2)), and Reverse two busts confronted, Antinous (?) *l.* with crown of disk and plumes, and a female bust *r.* with lotus-flower on head, in field L B: and No. 667 with a similar Reverse but without date, and Obverse a male figure seated *l.* on a low throne, with sceptre in *r.* hand. Unfortunately Mr. J. de M. Johnson's excavations at Antinoe in 1914 did not throw any clear light on the leaden tokens of that town, as he found that the second and third century mounds, from which evidence on this point might have been derived, had been almost entirely swept away by the *sebakhîn*. Feuardent describes a piece in the Demetrio Collection (No. 1535) which has the ordinary types of the Alexandrian bronze of Antinous—Obverse ANTINOOY HPΩOC and bust of Antinous *l.*, Reverse Antinous as Hermes riding *r.* with date L IΘ—but in lead, which might be a token of Antinoe, but is more probably a proof of the bronze; the excellence of the style led Feuardent to assume that it was struck in Asia Minor, but this does not seem a convincing argument; the work of the Alexandrian mint in the later years of Hadrian was quite equal to that of Asia.

E. Miscellaneous Types of Class 2.—There are a few examples of Class 2 which do not fall into any of the foregoing groups and cannot be assigned to any particular town, but merit description:—

(1) *Obv.*:—Two busts facing (possibly Antoninus Pius *r.*, and M. Aurelius *l.*[1]): border of dots.

Rev.:—Dikaiosyne standing *l.*, holding scales and cornucopiae: border of dots. [24 mm.]

(2) *Obv.*:—Nilus reclining *r.*, holding cornucopiae and reed; above, genius *l.*, holding out wreath: border of dots.

Rev.:—Dikaiosyne as (1). [21 mm.]

(3) *Obv.*:—Two figures standing, heads facing (Dioscuri?): line border.

Rev.:—Dikaiosyne standing *r.*, holding scales and cornucopiae, and, facing, Homonoia standing *l.*, with *r.* hand raised, cornucopiae on *l.* arm: line border. [21 mm.]

[1] Prof. Petrie thinks the busts are more probably Hadrian and Antoninus Pius.

(4) *Obv.*:—As (3).

Rev.:—As (3), but Homonoia *r.*, and Dikaiosyne *l.* [22 mm.]

(5) *Obv.*:—Two busts facing—Harpokrates (?) wearing *hemhem* crown to *r.* and Sarapis wearing modius to *l.*: border of dots.

Rev.:—Nike advancing *l.*, holding out wreath: border of dots. [20 mm.]

(6) *Obv.*:—Roma (?) standing to front, head *l.*, wearing helmet and cuirass, holding on *r.* hand Nike *r.*, resting left on spear: border of dots.

Rev.:—Nike advancing *r.*: border of dots. [22 mm.]

(7) *Obv.*:—Sarapis standing to front, head *r.*, *r.* hand on staff, *l.* wrapped in himation: border of dots.

Rev.:—Nike standing *r.*, writing on shield supported on pillar: border of dots. [22 mm.]

(8) *Obv.*:—Bust of Sarapis *r.*, wearing modius: border of dots.

Rev.:—Bust of Isis *r.*, crowned with disk and horns: border of dots. [19 mm.]

(9) *Obv.*:—Isis seated *r.*, holding up lotus-flower in *l.* hand; before her, Harpokrates standing *l.*, crowned with *skhent*, *r.* hand to mouth: line border.

Rev.:—Illegible. [18 mm.]

(10) *Obv.*:—Isis, crowned with disk and horns, seated *r.* on rocks.

Rev.:—Haroeris (?) standing *l.*, bearded (?), holding hawk on *r.* hand, club on *l.* arm. [14 mm.]

(11) *Obv.*—Nilus reclining *l.*, holding reed and cornucopiae: border of dots.

Rev.:—Harpokrates (?) standing *r.*, wearing modius and himation, *r.* hand raised, club (?) in *l.*: border of dots. [18 mm.]

(12) *Obv.*:—Nilus reclining *l.*: below, crocodile *r.*: line border.

Rev.:—Bes (?) standing to front: line border. [17 mm.]

(13) *Obv.*:—Female bust *r.*, draped: traces of letters round: border of dots.

Rev.:—Nilus reclining *l.*, holding cornucopiae and reed: border of dots. [Two specimens: 24 and 18 mm.]

(14) *Obv.*:—Nilus seated *l.* on rocks, holding reed and cornucopiae, drapery over legs and *l.* arm.

Rev.:—Euthenia reclining *l.*, holding out ears of corn: *l.* elbow resting on sphinx *r.* [29 mm.]

(15) *Obv.*:—Bird standing *r.*: border of dots.

Rev.:—Winged genius advancing *l.*, nude, stooping with *r.* hand outstretched over bird: border of dots. [Seven specimens: 12–14 mm.]

The last of the above-mentioned types approaches in workmanship to Class 3: it is rough and clumsy, so much so that it is difficult to say what particular species of bird is intended to be represented on the Obverse: on some specimens it resembles a goose, on others it is more like an ibis. Judging from the number of examples, the piece should originate from some place near Memphis.

(16) *Obv.*:—Hawk-headed divinity standing *l.*, wearing *skhent* (?) and cuirass, holding out on *r.* hand hawk *r.*, resting *l.* on spear: before him, on ground, serpent erect *r.*: border of dots and inner circle of line.

Rev.:—Shrine (?), within which hawk *l.* (?). [28 mm.]

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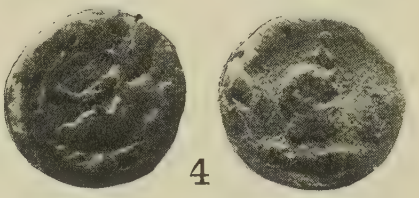

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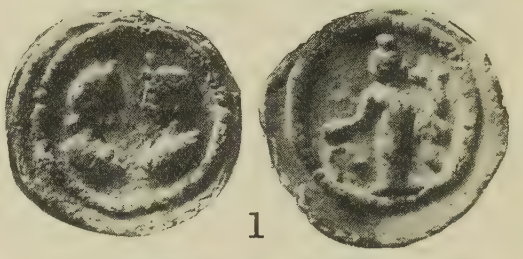
D. DATED



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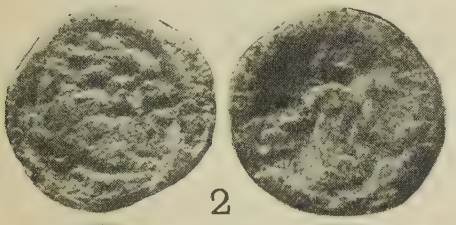

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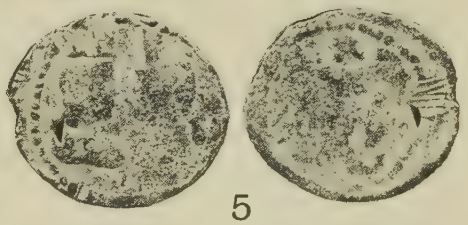

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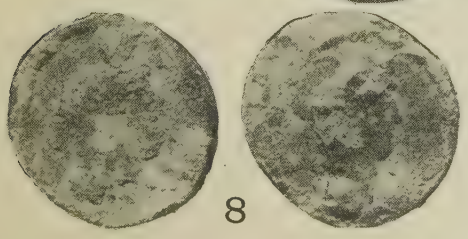

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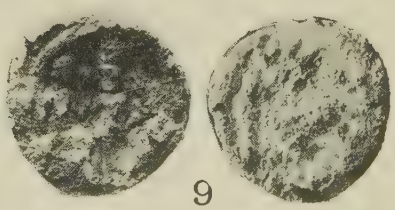

9

This type is Dattari's 6433 (Pl. XXXVI). As he points out, the Obverse type is that of the Sethroite Nome: and, if the piece is to be ascribed to that nome, we have here an example coming from the Delta which is not of the fabric of Class 3. It is, however, rather unlike any of the other tokens of Class 2 in style, and may represent the issues of the extreme east of the Delta.

(17) *Obv.*:—Nilus seated *l.*, holding reed and cornucopiae: border of dots.
Rev.:—Sarapis standing to front, *r.* hand raised, short staff in *l.*: border of dots. [20 mm.]

This appears to be the same as Dattari's No. 6482. Dattari describes the Reverse type as Helios, with head radiate. If this is correct—the condition of the present specimen makes it impossible to say with certainty—the figure is probably intended for Helios-Sarapis; the attitude is a characteristic one for Sarapis on third century Alexandrian coins. This piece was obtained at Hawara.

F. Class 3.—If the assumption that Class 3 comes from the Delta is correct, it is natural that this class should not be extensively represented in a collection formed at Memphis. As a matter of fact, only two types occur, though each of these furnishes a considerable number of examples.

(1) *Obv.*:—Helmeted head *r.*
Rev.:—(*a*) Helmeted head *l.* [Four specimens: 11–13 mm.]
(*b*) Helmeted head *r.* [Five specimens: 11–13 mm.]

The execution of most of these specimens is bad: on the better examples the helmet on the Obverse seems to be of the crested Athenian form, that on the Reverse Corinthian: but it is impossible to speak with certainty as to the intentions of the artist. On one or two specimens there is an attempt at a border of dots.

(2) *Obv.*:—Head and neck of horse *r.*
Rev.:—Forepart of horse *r.* [Eleven specimens: 13–17 mm.]

The workmanship shown in pieces of this type is even worse on the average than in (1), and is in most cases simply barbarous. Two examples are fairly clear: and on these there are borders of dots round the types. The rest are of various degrees of badness, the worst being so debased that it would be hopeless to guess what object was intended to be depicted if less degraded specimens were not available for comparison.

It may be remarked, in connexion with this class, that in my previous paper I ascribed to Hermopolis Magna a token with the types of head of Zeus Ammon and baboon squatting *r.* This is distinctly of Class 3 in style, and quite unlike any of the tokens grouped above as belonging to Hermopolis Magna. I am now therefore inclined to suggest that it should be attributed to the Delta town of Hermopolis Parva.

G. Class 1.—Besides the one direct copy of a current coin in the collection there are some interesting examples of what I have called hybrid types. Such are:—

(1) *Obv.*:—Radiate head of Helios (?) to front.
Rev.:—Bee (in sunk circular field). [15 mm.]

Both Obverse and Reverse types in this case suggest Asiatic origin; the Obverse is presumably from Rhodes, the Reverse Ephesian.

(2) *Obv.*:—Turreted female head *r.*, in wreath.
Rev.:—Stag (?) standing *r.*, looking back. [16 mm.]

The Reverse type here is again probably Ephesian; the Obverse may be derived from Smyrna.

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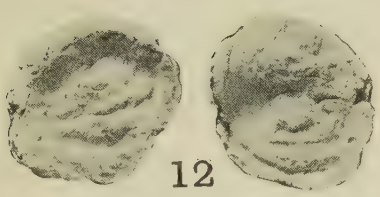

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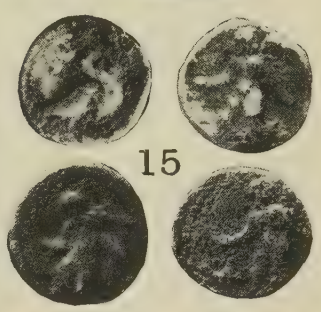

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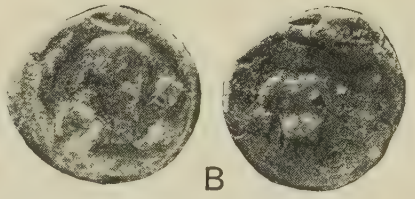
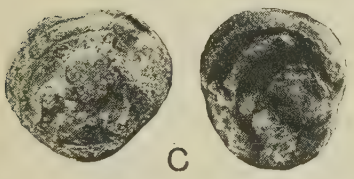


B

E. MISCELLANEOUS



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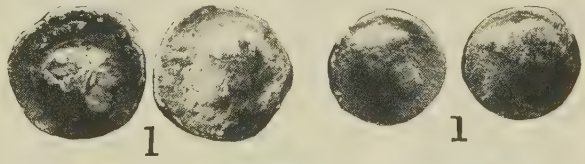

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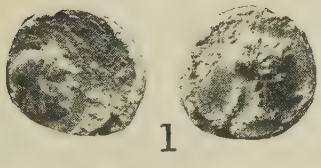

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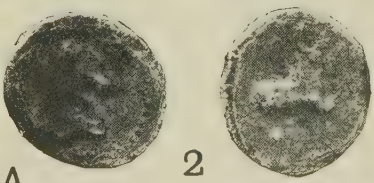

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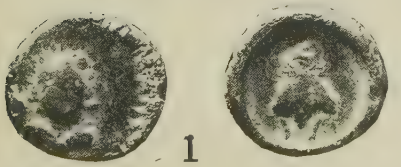
F. DELTA



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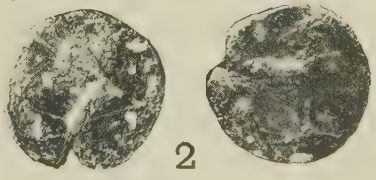

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G. HYBRID TYPES

(3) *Obv.* :—Head of griffin *r.*
Rev. :—Prow. [10 mm.]

The types of this specimen are both found in many Greek cities; if the Ionian relationships of (1) and (2) are to be sought in (3) as well, the Obverse type may come from Phocaea and the Reverse from Samos.

(4) *Obv.* :—Head wearing elephant-skin cap *r.*
Rev. :—Eagle's head *l.*: border of dots. [16 mm.]

The devices used in this case are both Ptolemaic, although the Reverse type does not occur on Ptolemaic coins.

(5) *Obv.* :—Female head *r.*
Rev. :—Cornucopiae. [Two specimens: 17 and 13 mm.]

The head on these pieces might be a rough copy of that of one of the Ptolemaic queens, on whose silver coins the cornucopiae is a frequent Reverse type.

(6) *Obv.* :—Nude male figure kneeling *r.* (Atlas ?).
Rev. :—Effaced. [18 mm.]

(7) *Obv.* :—Snake-footed figure *l.*, with *l.* hand raised.
Rev. :— ? [Two specimens: 20 and 17 mm.]

The Obverse types of (6) and (7) are distinctly Greek in conception, though I do not recall their occurrence on coins. The Reverse type of (7) is very obscure: it seems to be a confused copy of some group of objects, for which I cannot suggest an interpretation.

(8) *Obv.* :—Head (?) *r.*
Rev. :—Dolphin *r.* [14 mm.]

(9) *Obv.* :—Hippopotamus (?) *l.*
Rev. :—Sphinx seated *r.*, with *r.* paw raised: in circular incuse. [16 mm.]

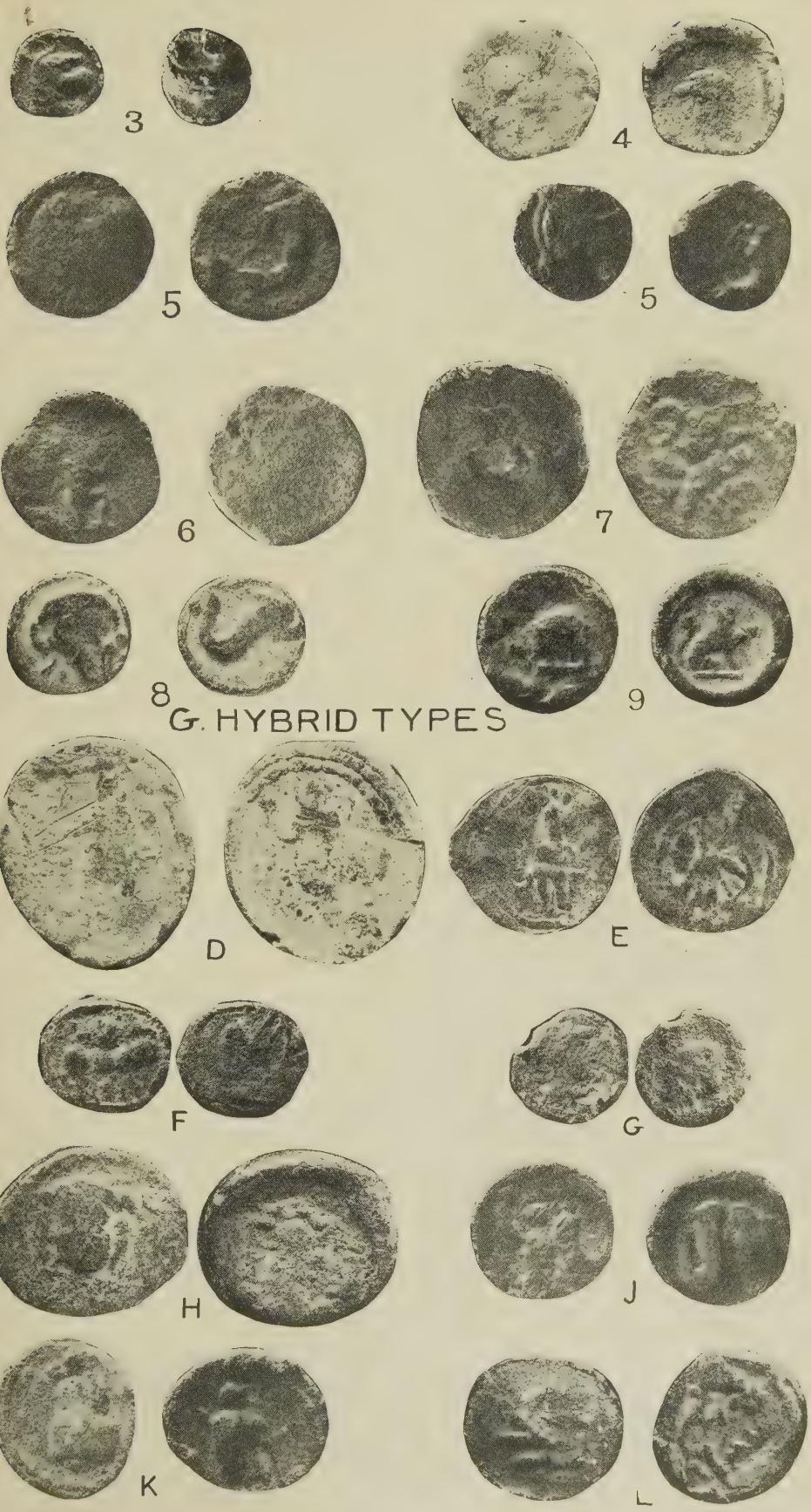
The last is in fabric unlike any others of this class, and I should be inclined to regard it as an amulet rather than as a token.

I have to thank Prof. Petrie for the opportunity of studying and publishing these pieces. It is to be hoped that further collections from ascertained localities will enable more certain identifications of the origin and purpose of the various classes to be reached.

J. G. Milne.

A few which were not sufficiently distinct for description are here added, distinguished by letters. A seems to be a variant of C (5). B and C, by the type of the head, are apparently from the same hand as E (8) and E (13). F is of bronze, but evidently not of any regular coin fabric. The ram has an indistinct object over it; after clearing, the other side shows a helmeted head. G shows a helmeted head, H a head of Medusa. The Reverse type of K is a figure in a cloak leaning on a staff. L is fairly sharp but entirely unintelligible.

W. M. F. P.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G. HYBRID TYPES
D
E
F
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L

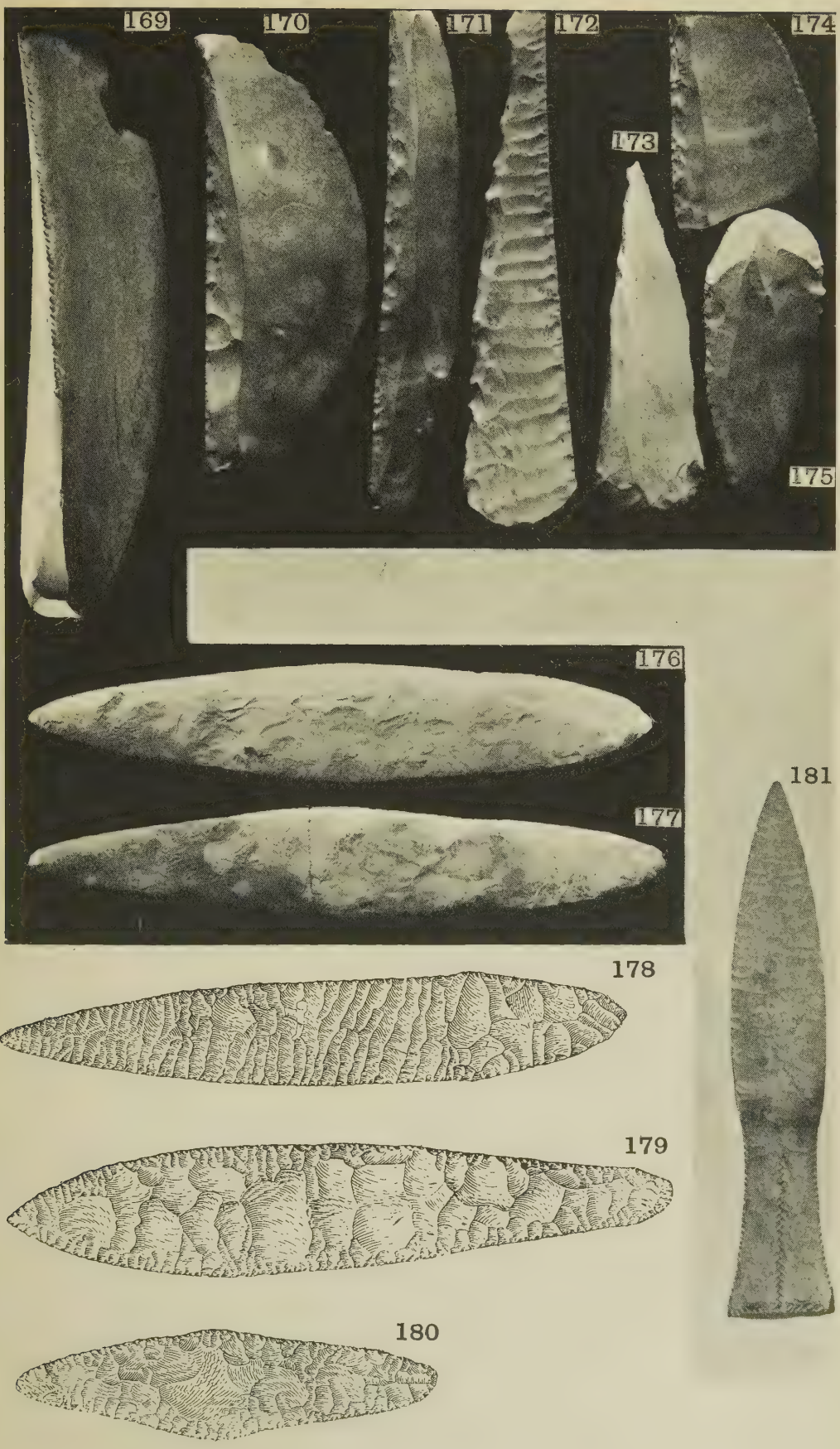
THE STONE AGE IN EGYPT.

(*Continued.*)

RESUMING the subject already treated on pp. 59 to 77 of our last number, we now touch the well-defined period of the prehistoric graves of Egypt. The Egyptian record places the close of this at about 5500 B.C.; and, looking at the proportion which the number of graves bears to those of historic ages, it seems that the rise of that civilisation is not likely to have been later than 8000 B.C. The main point to be observed is the close connection with the Magdalenian cave products, and the finest Danish work, suggesting that we may find some synchronism. One of the most characteristic forms is the large three-faced blade 169, 170. Such a blade usually has a considerable wind, or twist, in the plane of it, and this had to be removed by detailed flaking before a truly flat blade could be formed, as a basis for the remarkably thin flat knives, such as 176, 177. On 169 the edge has been partly flaked; the snubbing due to scraping always makes an edge much steeper, but this flaking reaches far back in the direction of the face. The back edge has been elaborately worked in a cris-cross pattern, which is a marked feature in the decoration of Danish flints, as 181. This is so purely an artistic feature, and so far removed from anything naturally suggested by flint fractures, that we can hardly avoid granting a connection of descent between the two. On the back edges of 170, 171, there is a mere snubbing due to scraping; and 172, with a cris-cross edge the whole length of it, has been a large blade with fine ripple pattern on the face (like the Danish 178, M., 349), but it has been so greatly snubbed down by right-handed scraping that it is reduced to a point. In other cases a fine thin blade, with ripple-flaking on both sides, has been snubbed down by right-handed scraping in all four ways, until it is less than half its original breadth. 173 is put here to show the form of the back of 172; it is the remaining butt of a flake like 169, after the whole of the upper part has been snubbed away. 174 is the top end of a similar blade with snubbing begun, and 175 is a similar butt end turned the other way up to show the detail of the flaking. Thus the whole of this row are varieties of treatment of the same kind of flake.

Another close link with the Danish is in the vague surface-flaking or scaling on 176 and 177, like the forms 179 (Denmark, M., 350) and 180 (Seine, M., 353). The dates of the Egyptian examples may not only be given in a general period, but many of them dated more closely by sequence dates. The whole period of the prehistoric cemeteries is divided into fifty parts, numbered 30 to 79, which last touches the beginning of the Ist dynasty (*Tarkhan*, I, 3). In this dating Nos. 170 and 171 are between 34 and 38 S.D.; 174 is of 46 S.D.; 175 of 43 S.D.; 176–7 are of 52 S.D. No. 181 is from Denmark (*Nordiske Fortidsminder*, IV, Pl. XXVI).

A striking resemblance is that of the coarse flakes which abound in the prehistoric graves (182–184) to the Magdalenian cave type (185–188, M., 134–5–9–7). The slight waviness of outline, the proportions of the flake, the slight end chipping, are all so closely alike, that they could hardly be sorted apart if mixed. These three flakes are of S.D. 32 to 48, 61, and 70. The flakes 189 to 194 are of sequence



Egyptian and Danish Flints of Fine Work.

dates 34 to 46, 47 to 50, 56, 58, 61 and 63 respectively. They are given to show how snubbing of the edge, by scraping, is closely like what is characteristic of Aurignacian flints in Europe, as in 195 (S., Fig. 53), 196 (S., xxxiii) and 197 (S., xvii), all of early Aurignacian age. This is a striking example of the recurrence of a utility type, produced merely from similar necessities, without any artistic design.

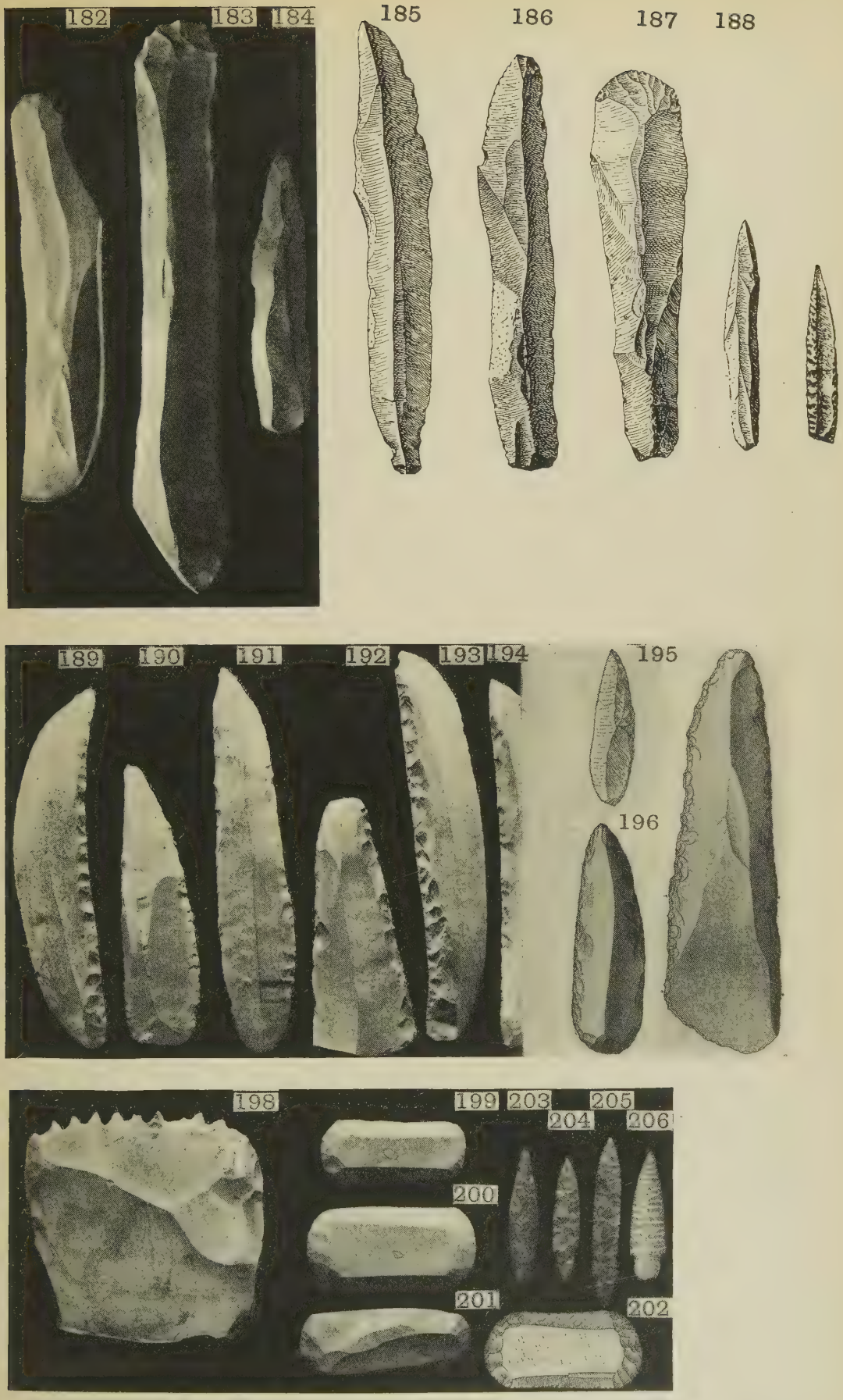
Touching on the beginning of historic times, there is a curious type found in the lowest levels of the town of Abydos, No. 198. The teeth are too fragile to saw any material; but the explanation was given by seeing an iron scraper of just this form used by Neapolitans for scraping off scales from fish. The type 199–201 is well fixed in date to the earlier half of the Ist dynasty; the first two are from the tomb of Zer, the third, worse made, from the tomb of Zet, and they steadily deteriorate to the end of the dynasty, and become flat-ended in the IInd dynasty (*Abydos*, I, xiv, xv). Yet the French example, 202, absolutely the same in detail, comes from the Grotte de l'Église (M., 120), and therefore should be of the Solutrean age, which we know by the Fayum flints is before prehistoric graves. The only explanation seems to lie in the chance of this belonging to a higher level of later date than the rest of the Grotte.

The arrow heads of the Ist dynasty, 203–205, are from the tomb of Aha, at the beginning of that dynasty, most nearly like a type from the Gironde, 206 (M., 378). The general subject of the history of flint-work in the prehistoric cemeteries and historic time is not dealt with here, but only so far as it is related to Europe.

We can now see how many questions are raised, and how much can be linked together, by the comparison of Egyptian and European types. Most of the Egyptian are so closely like the European that a presumption must be allowed of a general equivalence in age, yet some cases show clearly a repetition, such as the Aurignacian resemblances. How far may we in the later periods venture on a close synchronism? The Magdalenian flint types in Egypt are associated with bone harpoons, which are also of that age in Europe. The historic Egyptian kept up the harpoon as a weapon of sport, but only used by the higher classes and not in business fishing; much as archery is kept up as a sport in England, long after fire-arms are used for real fighting. For actual use we only find the bone harpoon from S.D. 38–57, and the copper harpoon from 34 to 61 S.D. (Naqadeh, El-Amrah, Gerzeh). This Magdalenian weapon therefore belongs to the first and part of the second prehistoric civilisation, say 8000–6000 B.C. Not a single example was found in the two thousand graves of the Ist dynasty age at Tarkhan.

This raises the question whether it will be possible to extend the Magdalenian cave period as late as the Egyptian graves, of about 7000 B.C., or to trace a descent of the type to a later time. This connection is an additional reason for keeping to the Egyptian chronology, and not adopting the arbitrary theories of Berlin which would bring down these Magdalenian types to about 3500 B.C.

Another serious European question is the synchronism of the finest Danish work with the same age. The details of regular parallel ripple-flaking, of scale-flaking, and above all of cris-cross ornamentation, are so closely alike in Egypt and Denmark, and so absent in intervening countries, that we may almost suppose that they were brought by two branches of the same race from some common source. Generally, these fine works in Europe would be placed much later than the Magdalenian age, bordering on the use of copper; so there would probably be no objection to dating the Danish work to 7000–6000 B.C., like the Egyptian.



Flakes from Prehistoric Egyptian Graves; with Magdalenian and Aurignacian.

In concluding the comparisons of flint-working in Egypt and Europe, the only reasonable view to follow seems to lie in the distinction between artistic and utility types. While, on the one hand, it would be contrary to all the history of artistic development to assign Chellean flints to a late period, on the other hand, the mere results of use and requirements of daily life may easily produce like effects, if the materials and habits are similar.

Having now reviewed the principal types of flint-work found in Egypt, it is needful to state, as briefly as we can, the relation between those types as found in Europe, and the physical conditions which were contemporary with them. But, entering on this subject, we experience the strong currents of different opinions among geologists as to the glacial periods. As it is impossible to handle so complex a subject as a by-issue, I can but say that, as in earlier ages the distribution of animals shows great changes of land and sea to have occurred, as, also, the submerged river channels along the American coast prove such large changes of level to have been geologically late, and, as beds of tertiary plants prove great changes of climate to have occurred—so, from such evidence, we are assured that there is no improbability in the changes traced in the glacial periods. As such changes occurred at other times, we need no overwhelming evidence to credit them within the last million years. The evidence that is described, as by the last work of the late Dr. James Geikie, *The Antiquity of Man in Europe* (1914), appears quite sufficient to show that the earlier extent of changes was carried on into the ages in question. As Dr. Geikie kindly replied on any points that were not clear to me, the Table here may be taken as giving the results in accord with a principal authority. The degree of precision of the results varies a good deal, as we shall state below.

At first it might be supposed that the fluctuations of glacial periods were peculiar to recent times; but it is only from recent times that we have wide-spread land surfaces for study. Of all the earlier ages we know hardly anything but sea- or lake-deposits, with scarcely any old land surface visible except in a short section. Hence, we cannot expect to find earlier evidence like that which we have on our present earth surface. The questions of the extent of the ice sheet do not, however, at all affect the relations with Egypt, with which we are here concerned. Only the changes of sea-level in Europe are here involved.

Such changes of climate and of elevation are termed now Glacial and Interglacial, from the fact of traces of ice action giving us the plainest evidences. But we cannot suppose that such fluctuations at the freezing limit were not accompanied by similar changes in other parts. It is recognised that the elevation and depression of Gibraltar is to be connected with similar movements in France, England, and the Baltic. If these changes took place at Gibraltar, they probably may also be found a little farther south, in Egypt; and as similar changes of level and of climate have been traced out by Blanckenhorn in Palestine, it is, therefore, to be expected that the movements should be equally found in Egypt.

It has been usual to speak of elevation and depression of the land; but it is absurd to suppose an equal earth movement of one-tenth of a mile vertical over 2,000 miles from Gibraltar to Norway. It appears, therefore, that the truer terms are fall and rise of sea-level, probably due to displacement of the earth's centre of gravity. The active causes we cannot discuss here.

The changes are traced by various evidences. There is the ploughing out of valleys by ice below their tributaries, and the banks of *débris* carried by glaciers, and left as moraines or erratic blocks. There are the scratches and grooves left

on rock surfaces by the cutting of stones bedded in the ice. There are the levels of glacier action on the mountains, and the raised beaches along the coasts. There are the submarine valleys and plateaus showing old land surfaces. There are the deposits of Arctic or southern plants, and bones of animals, showing the temperature; also the forest beds now submerged. From such facts, the meaning of which seems trivial until they are united, the history of the changes of the last million, or so, of years has gradually been pieced together. At present any single fact of the kind has a greatly enhanced value to us, as it either fits into place in the scheme already laid out, or else adds some fresh feature.

Dates.	Period.	Sea Level, Feet.	Temperature, Fah.	Conditions and Human Work.	Geologic Stages.
	6th Glacial ...	+ 30	–	Small Glaciers	Daun. Upper Turb.
	5th Inter G....	–	Forest 1500 ft. up + 5°	Wider coasts	Up. Forestian.
	5th Glacial ...	+ 50	–	Considerable Glaciers	Gschnitz. Low Turbarian.
	4th Inter G....	–		Britain Continental Great Baltic Lake ... ... Neolithic (with *Azilian*)	Low. Forestian.
– 20,000 Max.	4th Glacial ...	+130	Arctic plants Thames – 20°	Great Baltic Glacier ... ... Intermediate *Magdalenian* / *Solutrean* / *Aurignacian*	Buhl. Mecklenburg. Wurmian.
– 80,000	3rd Inter G....	– 200	Southern Mammals +15°	Britain Continental *Mousterian* Land far in Atlantic	Dürntenian.
180,000	3rd Glacial ...	+700	– 30°	Gibraltar upper breccia... ... Ice sheet in N.W. Europe ... N. and mid-Britain submerged Before coldest *Mousterian* Torrents cut Gib. breccias	Polonian. Rissian.
400,000	2nd Inter G.	– 600	Southern Mammals +20°	North Sea, dry *Acheulian* Britain Continental, cooler Spain wide in *Chellean* Mediterranean warmest Gibraltar lower breccia	Tyrolean.
	2nd Glacial ...	+900	– 30°	Maximum glaciation Ice 3500 ft., Scotland .. ... 2800 ft., S. Jutland ...	Saxonian. Mindelian.
600,000		– 50	– 20°	Arctic plants in Norfolk	
700,000	1st Inter G....	– 200	Southern Mammals +10°	Earliest man of *Heidelberg* ...	Forest Bed. Norfolkian.
	1st Glacial ... Pleistocene.	+300	– 13°	Snow line 4000 ft. below now ...	Scanian. Günzian.
	Pliocene ...		+ 20°	Wholly Arctic in N. Sea Gradually cooling South molluscs in N. Sea.	

The Table states first the date of each period. This is but a very vague approximation, gleaned from the changes which went on, and it is probably a minimum. The periods may have been much longer, they are unlikely to have been shorter. At least such dates give some sense of reality and proportion, though they cannot be taken as definite statements. The names of the periods are only applied for convenience, beginning as far back as the series of changes

can be continuously traced. The levels in feet show the movement of the sea, − down, or + upward, from the present level; the later rises of the sea are well fixed by the raised beaches, but the earlier amounts depend on extent of submerged land surfaces, limits of ice action, and changes which only give an approximation; the amounts are rather vague, but they at least show the kind of movements involved. The temperature, above or below the present, is gleaned from statements of the downward limits of snow and ice, and upward limit of forest growth, on the scale of 300 feet of elevation to 1° Fah. Also from the the presence of Arctic plants, or of southern mammals; and from the present temperature of places formerly at the edge of the ice sheet. The conditions and human work are fully stated by Dr. Geikie, and connected with the names of the geologic stages. With these explanations the reader will be guarded against assuming exactness for the amounts stated, which are only approximate and relative. Abbreviations in the last column are used, as Daun., for Daunian; Upper Turb., for Turbarian.

In Egypt there has not been any serious study of the changes of level which the country has undergone in recent periods. The following notes are only some points which have caught my notice while doing other work; they are given here without the least claim for completeness or precision, and merely indicate what is waiting to be recorded. By putting such a statement together it will be better seen what meaning any other such facts may have, and what are the crucial evidences that should be specially sought for in future.

To begin with, the levels above sea should be stated for the Nile Plain at the various places to which we may refer, as such have to be added to cliff heights, in order to see the relation to sea level. Sea = 0, *Cairo* 65 feet, *Minieh* 114 feet, Beni Hasan 117 feet, Tell Amarna 129 feet, *Siut* 147 feet, Sohag 177 feet, Naqadeh 230 feet, *Luqsor* 250 feet, Esneh 260 feet. The italic names are measured levels, with others fitted in by proportionate distance.

The earliest stage we can observe is the heavy denudation of the Eocene limestone plateau, shown by hillocks of crystalline calcite standing up on the top surface. These must have been formed at a considerable depth by solution and deposition; since then, the higher and surrounding strata have all been removed, exposing the less soluble crystalline calcite. The great rainfall is also shown by the collapse of immense caverns. At Tell Amarna I have traced a sudden dip of strata of fully 200 feet vertical, which implies, probably, a greater height of cavern below it, filled up with fallen blocks. All along the Nile cliffs there may be seen at intervals, in the miles of perfectly even strata, large collapses of some hundreds of yards in length. Such features imply the existence of great caverns, the discharge of which must have been at least 300 feet below the present Nile level; this, therefore, implies an original gorge of the Nile, and sea level, as much lower. This must be put as over 300 feet.

After all this was consolidated, and the fallen strata cemented into a solid mass by infiltration and breccia, the Nile valley was widened so as to cut a clean section through the collapsed strata. This shows that a great rainfall still continued in the land. Two stages of this early period are seen in 207, 208. In 208 the denudation of the surfaces is seen as a wide, gently sloping valley of very long and gradual denudation. The slope on the left is sharply broken away by a much later valley, of which a view is given in 207. Yet this later valley—of the Tombs of the Kings—belongs to the period of erosion before the changes which we next consider.

After this erosion of deep valleys, like 207, a rise of the sea then followed, during which the Nile valley was an estuary; rolled gravels and fragments were

deposited as high up as 400 feet, or more, above the plain at Thebes. This is shown by the level silting up of the Valley of the Tombs of the Kings. In 209 the level line of filling is very clear; above it the hard limestone ridges rise like islands, below it the channels have been trenched out by later rainfall. Another view, higher up the valley, 212, shows this also—from side to side of the whole view the level line of silting up is clearly seen. An attempt has been made to attribute this to ponding of the Nile by banks of detritus lower down. But as there are

207. Precipitous Valley (of Kings), cut through older Denudation of Surface.

208. Older Denudation Valley, cut away on Left by Precipitous Valley.

209. Above, Limestone Cliffs and Slopes.
Middle, Level Top of Estuarine Filling by Débris.
Below, Slopes of Vallies, Scoured out through Débris.

marine deposits in the Nile valley known as far south as Asyut, it is certain that there has been an estuary since the present erosion of the Nile valley. An attempt has been made to attribute this valley-filling to aerial denudation, but the uniform flat land of the top is against a dust-and-torrent filling, as also is the rounded and rolled state of the *débris* and the stratification of it. As there are also indubitable evidences of the high water level in other parts of the Nile valley—as noticed below—there is no object in straining to avoid the conclusion here. The rainfall which produced the detritus of this filling material must have been enormous,

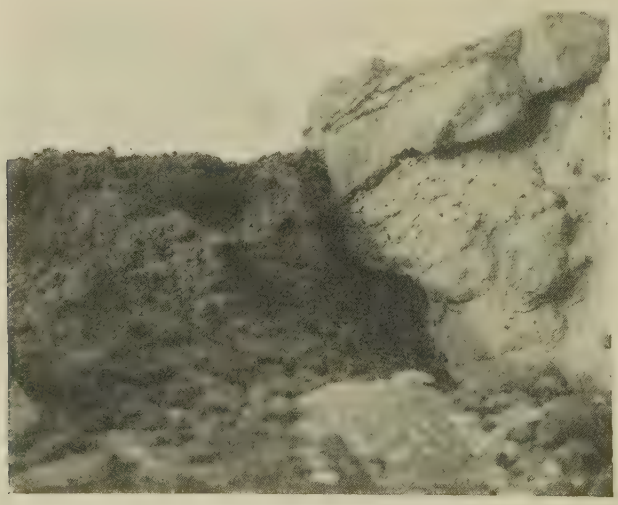
as the catchment area is only six or eight square miles, entirely bounded by far larger valleys on each side. This deposit implies a depression of about 650 feet.

The great beds of gravel with boulders on the top of the hills at the mouth of the Fayum, about 400 feet over the sea, are perhaps of this age.

After this came a fall of the sea to at least as low as the present level. This is proved by the rain which fell on the small area of the Valley of the Kings, ploughing out a wide and deep course through the mass of gravel and detritus

210. Stack of Débris, left behind from the Estuarine Filling of the Kings' Tombs Valley.

laid down in the previous period. This is finely shown by the precipitous stacks of detritus, as seen in 210, which remain standing in the valley. How much the sea fell below the present level we cannot say.



211. Bed of Indurated Gravel, Filling Gully in Top of Limestone Cliff, Sohag.

Next, there was a great rise of sea. At Sohag on the top of the cliffs, about 600 feet high, are patches of rolled gravels, shown in 211. These extend up to the

edge of the cliffs, filling gullies in the rock surface. The rock unprotected by the gravel is not in the least weathered back from the line of the face covered by the gravel. There does not seem to have been the smallest weathering of the rock faces since the gravel was laid down. It is, therefore, impossible to refer this gravel to the previous rise of sea, after which there has been heavy rainfall. The whole height of the Nile valley must have been filled at the side with gravel and silt for it to be possible to lay down rolled gravel along the edge of a cliff. To this same rise of sea level belong little patches of stratified silt, seen clinging to the rock gullies at the top of the cliffs at Tell Amarna. The Sohag gravel is at about 800 feet over sea, the Tell Amarna silt at about 500 feet. Since then there has been no rock-weathering and very little rain.

212. Above, Denuded Limestone Cliffs and Slopes, Former Islands.
Horizon, Level Line of Top of Estuarine Filling.
Below, Valley cut through Débris Filling.

Probably of the same age are the great banks of *débris* washed out of the side valleys, and deposited always on the down-stream side in the Nile valley. Such banks could only be formed under water when heavy rains were deepening the side valleys. The banks are well seen at Beni Hasan, where they rise to about 300 or 400 feet over present sea. If searched for, doubtless they could be traced in most districts, as I have often noticed them. Probably also of this age are the gravel beds at the mouth of the Valley of the Kings, where Pitt-Rivers first found Egyptian worked flints in position. They can hardly belong to the first filling of the valley as no trace of worked flint has been discoverable in that filling.

After this there has been a fall of the sea to the present level, and the Nile cnrrent, with a little rainfall, has washed away the later filling of the Nile valley. Though there is some thirty or forty feet of Nile mud deposit in the Nile valley, this does not extend in the Delta below the present sea level. The rise of land level by silting up the bed of the valley seems to have raised it all along, and at

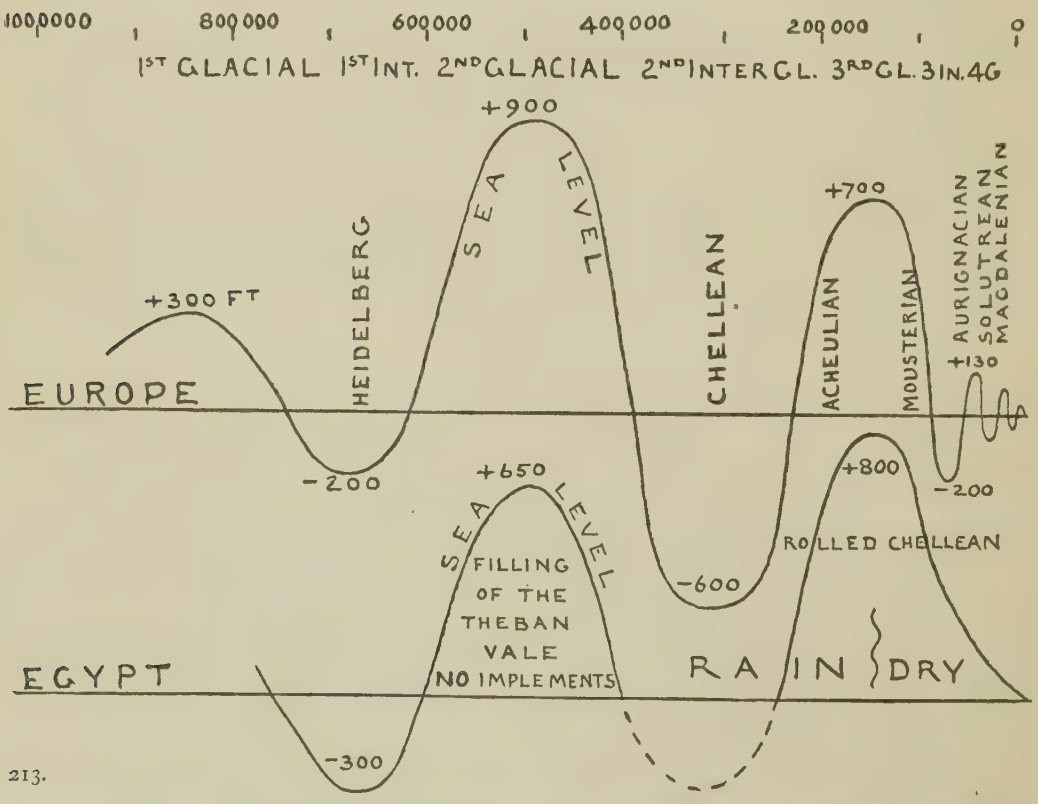
the same time pushed out the Delta forward; so the actual front of the deposit has always been at about the same sea level. In saying this we do not take into account the sinking of the Delta in Arab times.

On the basis of the various changes of sea level we may now attempt to connect the Egyptian with the European changes.

Egypt.		Europe.		
Earliest prehistoric civilisation.		4th Glacial ...		Late *Magdalenian.*
Fayum flints.				*Solutrean.*
Early settlements.				*Aurignacian.*
	Sea Feet.	3rd Intergl. ...		*Mousterian.*
		Sea Feet.		
Sohag cliff gravels	+ 800	+ 700	3rd Glacial ...	*Mousterian.*
				Acheulian.
Kings' Valley clearing	− *x*	− 600	2nd Intergl. ...	*Chellean.*
Kings' Valley filling	+ 650	+ 900	2nd Glacial ...	
Collapsed caverns	− 300	− 200	1st Intergl. ...	*Heidelberg.*

It accords with this connection, that I have repeatedly and closely searched the sections of the filling of the Kings' Valley for worked flints, and never could find any in those beds; as they are pre-Chellean it is not to be expected there should be such worked flints. On the other hand there are plenty of palaeoliths on the top of that filling.

In the following diagram, Fig. 213, the extent of these movements of sea level is shown, with the suggestion of their being contemporary. The approximate dates are placed at the top, merely to give an idea of the extent of time involved



213.

in each change. The human periods from the Heidelberg man to the Magdalenian are marked with the European curve. The Egyptian curve has no human remains

yet known associated with its first rise of sea level, where they have been searched for in the Theban vale (Valley of Tombs of the Kings). In the second rise there is the rolled Chellean implement of Esneh at about 450 feet over present sea level, implying that the Chellean age was before the middle of this rise. These limitations of the Chellean age agree with its position in Europe. In the second rise is here marked the change from a rainy to a dry climate, as indicated by the entire absence of erosion since the deposit of the high level gravel at Sohag.

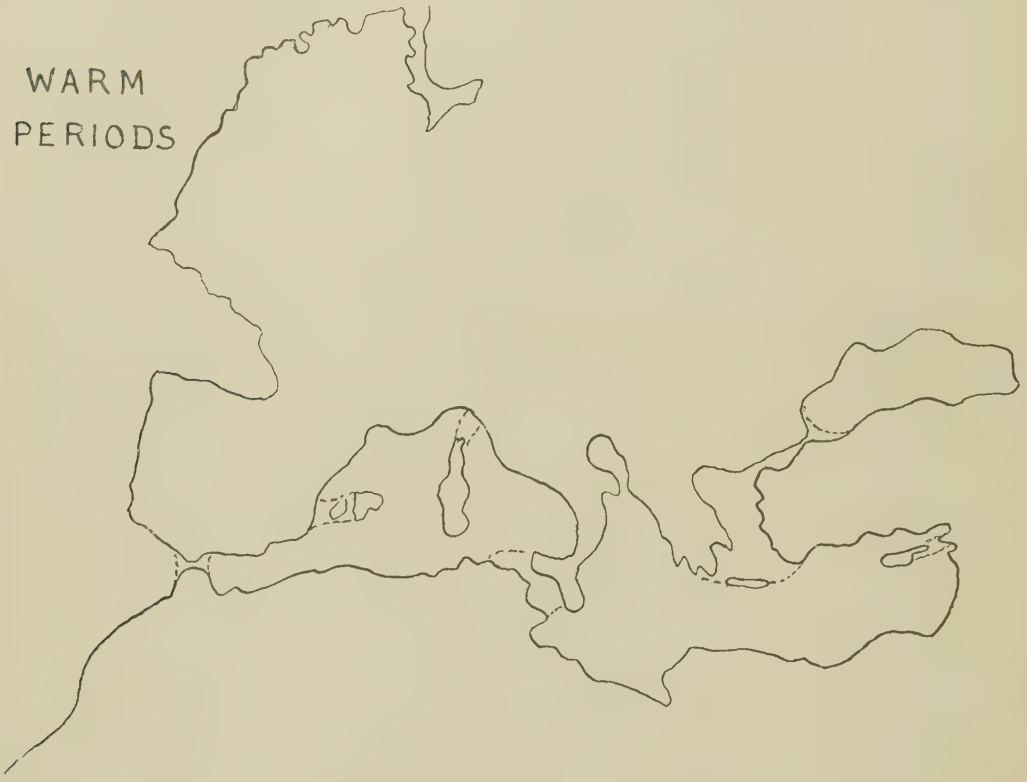
These changes of level of the sea imply great changes in the coast outlines. In the two sketch maps are shown what the coasts would be with a sea level of 600 feet lower and 600 feet higher. These are not the extreme changes, but show the conditions which would have lasted for many thousands of years, becoming more, and then less, pronounced. In the map during the glacial periods, 214, an

214.

open shading shows where ice is considered to have extended. Central Europe was an island with deeply indented branches of Italy and the Balkans. A clear waterway went through southern France, the Dardanelles, and out into the great Russian sea, in which the Caucasus and Urals stood as mountain boundaries. On the south the African coast lay as far back as the latitude of Thebes, marked T, in the Nile valley. Thus, westerly winds would bring precipitation over Egypt freely being first arrested by the eastern mountains, and so producing tributary streams on the east side of the Nile estuary. A clear waterway existed around the Palestine hills into the Red Sea. Such were the conditions of the cold periods, when Egypt had a climate like that of Constantinople or the south of Japan.

In the warm periods favourable to man, when the Chellean and Solutrean work flourished, this coast line was very different (Fig. 215). The much more continental condition must have favoured intercourse, and the spread of types of work. At the extreme low waters (here dotted) Cyprus joined Syria, Crete was a link between Greece and Asia Minor, Italy joined Africa, Sardinia and Corsica joined Italy,

the Balearic Isles joined Spain, and Spain joined Africa, thus making two closed lakes of the Mediterranean. In the north-west a great extent of land entirely included the British Isles, with a steep edge of it, as steep as the Ligurian or Welsh coast at present. Thus the whole conditions of life and of intercourse must have been entirely different many times during the human period. What is shown in these maps are the 600 feet contours, which were not the extreme conditions, but such outlines as must have lasted for a long period.



215.

We can now realise what needs to be looked for in Egypt. Unhappily, in recent years, the surface flints have been remorselessly gathered up by the cartload to the order of speculators, and their history and meaning entirely lost. All over the Theban district, which was one of the richest and the most important by the successive periods there traceable, there is not a flint worth notice left, only sad little pits dotted over the ground, where they have lain. Some good and careful work was done by Mr. Montague Porch, who levelled by aneroid the positions of the fine series of flints which he collected, and I have always noted the levels of the flints which I have picked up. A fine Acheulian flint, with secondary working, lay by a cliff edge, 800 feet high, at Naqadeh, or at 1,030 over sea. This would never have been submerged, and no very heavy rainfall occurred since its time sufficient to denude the rock and wash it away. This accords with the appearance of its position. On the other hand a well rolled Chellean pick (*coup de poing*) I picked up on a spur of hill behind Esneh, estimated at 200 feet over Nile, or 460 over sea; and this is within the submersion of the 3rd glacial period.

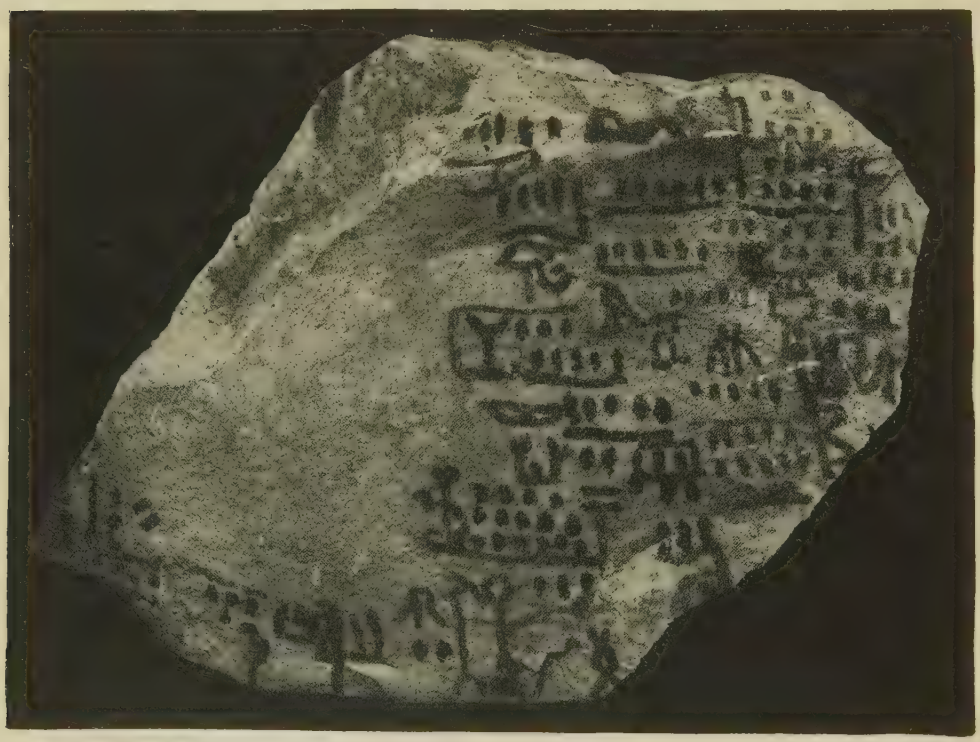
The main matters to search for now are traces of raised beaches of the submersions, and flints connected with them; levels of waterworn and of unworn flints

of each early period at about 600 feet over sea; any worked flints in the Kings' Valley filling, or in the banks of *débris* washed out of side valleys at high levels; the period (Mousterian?) of flints in the high gravels, and the relation of Fayum flints to the continuous prehistoric civilisation. Of course, flints may be found perfectly fresh and unpatinated if they chanced to be buried very soon, without water wear, and have only been uncovered by denudation lately. Such was the case with one of the rudest and most massive picks (Fig. 9), probably lost in the zero level period of early Chellean, and then bared again in modern times where I found it, at near Nile level. By far the most important matter is the levelling and position of flints on the slopes and ledges of the hills in the Thebaid, where there was always a land surface throughout all the changes of level.

W. M. Flinders Petrie.

BOAT NAMES IN EGYPT.

In the *Hieratic Ostraka* from the Ramesseum, Dr. Spiegelberg transcribed some tallies of the boat loads of blocks of stone, brought down for the building. The sizes of the blocks in cubits were stated, and the names of the owners of the boats, such as Pen-tep, Khoy, Pă-abtu, Mohu, Min-nekht, Khensu, Tahuti, Nekhtu-amen, Setmes, and others, sometimes with the father's name added. The general load for a boat was six to seven blocks (see numbers 135, 136).



Ostrakon from Thebes, giving Names and Loads of Boats.

Here we publish another Theban ostrakon with various tally numbers, averaging also between six and seven. These, therefore, are probably also tallies of the delivery of boat loads of stone. The signs, however, are not personal names, but apparently the names or signs of the boats. The writer was evidently not a regular scribe, as he had no habit of writing in one direction; he made eight signs face the right, in the usual scribe's direction, and six signs face the left in the European direction. Probably he learned his signs from big monuments, on which they face either way for symmetry.

The names and loads of the boats are as follows, beginning at the top and the left hand :—

Khepesh	6	Heb	5
Qed...	14	Kă	2
Mer...	5	Anr?	3
Uzat	5	Uazet	15
User	9	Het? (temple)	3
Her (Horus)	6	*x*	3+*n*
Hebs	12	Qenbet	11
Urs	9	Renpet	4
Anu...	5	Mena	2
Khent	5	Uben uăs	2
Rannut	5	Hez	3
Zu? user	3	Neit	1+*n*
Shot (papyrus roll) ...	10		

Many of these names are much like modern ones in the Navy, or the luggers and barges of to-day. The Turnabout, The Mighty, The Powerful, The Beloved, The Rest, The Harvest, The Feast, The Glory of Thebes, The Firm One, and the several names of deities, like the Saints of the Spanish Navy, are quite what we should expect. Observe also that nearly all of these words are single signs which could be set up as a figure-head, or painted large upon the bows.

This ostrakon was brought to me from Thebes, and is now in University College, London.

W. M. F. P.

PERIODICALS.

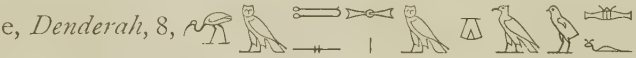
Zeitschrift für Aegyptische Sprache, L, 1912.

(*Omitted in previous Abstract.*)

11. SPIEGELBERG, W.—Brugsch first suggested, and Sethe has proved, that the Boheiric ⲁⲥⲫⲟⲩⲓ is derived from the Egyptian *ḥ3t-sp*, the regnal year of a king. Two new examples from the Coptic are given ⲧⲥⲡⲙⲛⲧⲏ and ⲧⲥⲡⲥⲛⲧⲉ. Here ⲥⲡ-, which is in the construct form, is obviously a feminine word, having the definite article and the numeral in the feminine.

12. ROEDER, G.—In the temple of Bet el-Wali the title of Rameses II is given as "son of Ra in truth." The indirect genitive helps to emphasise the filiation of the king.

13. SETHE, K.—In Spiegelberg's edition of the Pedubastis-romance occurs a word which looks like the preposition ⲣⲉ-, but which he translates as "To happen" and once as "To do." It can, however, only be the qualitative of ⲉⲓⲣⲉ, ⲟ (Achm. ⲉ-), a word which has hitherto been looked for in demotic in vain. In demotic also there occurs the form , the 3rd pers. fem. sing. of the pseudo-participle, which has not been preserved in Coptic.

14. DÉVAUD, E.—The noun of Saitic and Ptolemaic times is generally derived from the verb . This, however, is not correct as the word in question derives from . The verb does not occur later than the Middle Empire, nor is the noun found before the Saite Period. On the other hand is not used in texts after the second Theban Empire. For direct proofs of the identity of the two words, see Petrie, *Denderah*, 8,  ; and on a Saite statue *wb*, , and several others.

15. DÉVAUD, E.—A correction of Gardiner's translation of the sentence , by changing into ; when the sentence reads: "Giving falsehood to him who says it, truth to him who comes with it."

16. DÉVAUD, E.—The in the verb (Coptic ⲉⲓ) is not one of the radicals of the word. The two signs and have the same form in hieratic, and the scribe in writing has had in his mind , of which the phonetic complement is . Hence the mistake.

REVIEWS.

The Tomb of Amenemhēt. Copied by NINA DE GARIS DAVIES; text by ALAN H. GARDINER. 4to, 132 pp., 46 plates. (Under the auspices of the Egypt Exploration Fund.)

In this volume is issued for the first time a detailed study of the funerary system of the Egyptians, and we owe Dr. Gardiner gratitude for applying the latest knowledge to the comprehension of the texts on the subject. Stimulated by the excellent copies of Mrs. Davies, the author has published this admirable introductory volume, for which the "auspices" of any society are needless. It may be hoped that he will give the world many more volumes of "The Theban Tomb Series" to which this is introductory, and so make accessible the mass of detail which remains from one great period of civilisation.

The tomb selected for this introductory volume is not of historical interest, but is chosen as giving ground for description of the funerary system as a whole. The principal discussions of general matters are on the *hetep da nesut* formula, and the magical value of the scenes represented. The formula which heads every funerary inscription, is by its habitual use and brevity not easy to comprehend. The earliest sense of it is concluded to be "a boon which the king gives," and as usually applied it becomes "an offering which the king gives." The precedence of the sign "king" is due only to the usual rule of placing it honorifically first in the sentence; and the real order is shown in some of the variations where gods are named instead of the king. The sense formerly suggested that it was a prayer "may the king give," is set aside by the syntax, and the variant *erdau*, the relative form. Why the king should be considered to give all the sustenance to the dead, has been generally explained by the high-priestly function of the early king, emphasized in a stele of the XVIIIth dynasty, where the king actually performs the family offering (*Student's History*, II, 172). Dr. Gardiner prefers, however, the explanation that the formula was originally that of the royal burial, where the living king offered to his father, and was thence transferred—without change—to the private usage. This is supported by the parallel of the transference of chapters of the royal ritual (Pyramid Texts) to private use, and by the expression "the Osiris" passing from the deified king to his subjects. Both of these parallels are, however, long after the period of the *hetep da nesut* for private persons, which was in full use in the IVth dynasty, so soon as there is any bulk of monuments to study. We may say that there is another sense to be considered also. In early society, as Dr. Seebohm has shown, all property is ultimately vested in the chief and he grants the use of it to the actual holders. The chief sets up in life each youth with cattle or land-rights, which have to be returned at his death or in the

third generation after, for redistribution. Hence all property is given by the chief primarily, and only the usufruct of it is personal property. When gifts are made to the dead they would thus pass out of the common fund which is returnable to the chief, and it would be natural therefore to require his consent. The two aspects of the tribal chief, as communal trustee and as high-priest, seem to fully account for the offerings to the dead being considered as coming from the king. It might be thought that so daily a matter as food would not be looked on as tribal property: but the earliest of such formulae are for a sarcophagus and burial, *i.e.*, all the property that was put in the tomb. Further, we must remember that the chief had wide-spread rights to food-rents, or maintenance, and it might well be that the offerings were primitively granted out of the food-rent belonging to the king, just as parochial endowments for masses for the dead in Wales arose out of a dedication of the chief's food-rents. Taking into account these features of tribal society, it seems needless to resort to a very early transfer of a royal formula. The whole conception of property and food dedicated to the dead would seem to require the chief's consent, and be granted by him as trustee, and offered by him as priest of the tribe. Of the later stages Dr. Gardiner says: "From the Middle Kingdom onward these various uses were confused, and a hybrid formula was evolved, the underlying idea of which was a bargain struck between the king and certain gods, offerings being made to the gods as an inducement to them to give similar offerings to the deceased." This is considered due "to a purely philological cause, namely the habit that grew up" of blending the phrases, "a boon which the king gives and which Anubis gives" as "a boon which the king gives, Anubis." It seems doubtful if the contracted writing could change the whole conception of the offering, and we should rather look to social and economic causes for the transfer. If the offering were made to the god for the benefit of the dead, then the priesthood received it, and the priestly aggrandisement of the Vth dynasty and onward would urge on this change. Another cause for bringing in the gods as intermediaries would be the constant alienation of funerary endowments; by consecrating them to the gods for the dead the divine protection was invoked. It was in fact introducing a trustee in order to secure the property. A good instance is quoted where the son is shown offering to his parents, while above that is shown the king similarly offering to Osiris and Isis. Thus the human offering to the human person reacts on the divine offering to the gods, for them to ensure it to the person. In the latest stage the power of the word was thought to suffice, and the passer by was desired to recite the formula so as to convey to the dead the benefit of the offerings named.

The magical value of the funerary scenes has been dwelt upon by Sir Gaston Maspero, but denied by the wholly materialist school of Berlin, which regards them as pompous display. In this, and other points, the sympathetic insight of the French school is accepted and acknowledged by Dr. Gardiner. The hidden texts on the insides of the coffins, or buried in the tomb chamber, were nothing as a demonstration to the living, and they force us to accept such provision as solely for the magical benefit of the dead. Similarly, we may add, the hunting and fishing scenes in the upper chambers are the evident descendants of those hunting scenes on the prehistoric grave at Hierakonpolis which was never to be visited by the living. It is only when we reach the biographical inscriptions that the intention for the living appears; and we should note that these inscriptions are at first outside of the tomb chapel (Herkhuf, and at Thebes), and only were transferred to the inside later, in order to protect them.

Many points of general interest occur in the description of the tomb. The family names are all of the style of the early XVIIIth dynasty; but a strange—perhaps foreign—form is Aohmes Hamash, which latter is supposed to be a pet name for Aohmes.

The order of the subjects in the tomb, and the reasons for their position, orientation, and facing direction, are carefully discriminated, and shown to be strictly in accord with the purpose and idea of the meaning.

The erasure of the *sem*-priest is noted as due to the Aten movement; it throws light on the secondary features of that religion, of which we know but little. It appears that the priestly function was disliked.

The usual early figure of the table of offerings is discussed. The view that the subject represented leaves of reeds laid over the offerings, is not supposed to be the original idea, but only an ignorant adaptation by the Egyptians, while the original objects are believed to be a row of sections of loaves, or slices of bread.

An interesting scene is described of Amenemhēt making offerings for the various craftsmen employed on the tomb. This might be taken as giving them a share in the perpetual magic benefit of the representations. But there may be a further meaning, when connected with the foundation deposits of materials and models of food for workmen. May not these workmen have been required to renew the perpetual freshness and completion of the tomb paintings for the benefit of Amenemhēt? So just as he fed them while they made the tomb, so he feeds them in figure that they may renew it.

The full extent of the primitive unfleshing of the body is not only known by the references in the Book of the Dead (collected by Mr. Wainwright in *The Labyrinth and Gerzeh*, pp. 11–13), but by the ceremony named by Dr. Gardiner of "fastening the jaws that were severed."

In two places in the tomb it is noted that some of the women are coloured pink instead of the usual Egyptian yellow. There are the two musicians and several serving women in the feast scene, and two of the bearers of offerings. It can hardly be doubted that these are northern or Syrian captives. We need a study of the extent to which foreign captives were employed and represented.

The use of candles in the ceremonies shows that such were customary in Egypt, though no remains of them have been found. The lighted candle represented in the hand, on the gilt cartonnage busts of Roman age, is, therefore, of Egyptian origin.

There are many other points of external interest in the book, beside the value of the general study of the funerary ritual and system. A few points the author may perhaps reconsider. A genealogy is printed with all the names upside down; it is far better to arrange genealogies in a column to each generation, with the eldest at the top of each column. On p. 48, surely a boat went from Beni Hasan *up* to Abydos, and not down. On p. 64, the stools cannot have been of bamboo, which was unknown in Egypt; they appear to be palm-stick crates, like the modern work. The cones on the head are stated to be entirely of scented ointment; but the vase from which they are supposed to be taken is much smaller than a single cone. The truth seems to be that the cone is of hair, like the modern African (ANCIENT EGYPT, 1914, 169), and the scented ointment was put on the cone, which could afterwards be detached so as not to saturate the wig.

Of the fidelity and artistic quality of the copies by Mrs. Davies it is needless to remark; it is well known to all that they cannot be surpassed, and the more of the ancient work is perpetuated in this way the better for its future survival.

Sièges de Prètres.—Par GEORGES DARESSY. 8 pp., 1 plate (*Bull. Inst. Français Arch. Orient.*, Cairo.)

A familiar object in the Saite and Ptolemaic town ruins is the solid limestone headrest. The wooden pillows which are usual from the pyramid age to the XIXth dynasty ceased to be made, and heavy limestone blocks appear instead. Now in the present paper M. Daressy has shown that similar blocks are found up to a large size, and that such were seats, as stated in an inscription. On the strength of that he terms all such blocks as seats, and would regard the lesser sizes as votive seats. It seems more likely that the low blocks of only six or seven inches high, and not much more in length, were headrests; especially as they curve up sharply at the ends, to prevent the head rolling over, while such a form prevents sitting upon them. Another feature is the hollowing out of the side, which is useless for a seat, but adapted for the shoulder in lying down. One such block from Memphis had a little shrine cut in it to hold a figure or amulet (*Meydum and Memphis*, III, Pl. XXXIII); this would be more appropriate for sleeping on to influence dreams, than for sitting upon.

While the commoner small blocks are therefore headrests, the larger blocks described are now shown to be seats. Two were found at Karnak, one of sandstone, the other of red granite, about eighteen inches high and wide, and a foot thick. The sandstone seat has, on the larger face of it, an inscription of ten columns, carefully cut and painted blue. It is translated as follows :—

"The prophet of Amen-ra king of the gods; prophet of Horus the great one of both lands, great . . . . of Amen; first prophet of the image of Pharaoh ever living; prophet of Osiris, of Ptah-Sokar-Osiris of Koptos in the Hall of Gold, of Horus, of Isis, of Nephthys and their allies, ruler of the temple of Khonsu Nefer-hetep of Thebes; priest of Min in the House of the Elder; fourth prophet of Amen; opener of the door of Amhut, passing in his skin; the great ruler (*ha*), keeper of . . . . . and of the king of the gods in his time; second prophet, making the passes of Osiris, chief of the modelling of his form, divine father, initiate in the mysteries, sacred purifier, IMHOTEP . . (son of) . . . . . sacred purifier of the temple of Mentu lord of Thebes in the temple of the bull (Bakis), HORUZA. He says, in adoring his lord, (I was installed) in my seat among the chief prophets in the place of the great purification as instructor-in-chief of those . . . . . on the seat; making the passes on the eyes, in alternation, the companion did things without knowing. He knew also that the love of Amen was better than millions of things, than hundreds of thousands of pieces of silver. He has been consecrated to Tanen as his prophet, and to Isis as priest of the sycomores. He satisfies himself with truth, he lives with Her, his heart rests in the great purification. I look for help to transmit to my *ka* all the members fulfilling their functions, and to end my days on earth in the service of Amen as director of the prophets in his great temple." Of the notes of M. Daressy on this inscription most are technical; but he compares the "passes on the eyes," and effect on the subject, to modern hypnotic action.

Coptic Cloths.—By LAURA START. 8vo, 36 pp., 38 figures, 1 plate. 2*s.* 8*d.* by post. (Bankfield Museum, Halifax.)

This pamphlet describes the different styles followed during about a thousand years in Egypt. A careful analysis is given of the methods of weaving, and of constructing the patterns by direct shuttle, by hand-working on the warp threads, and by stitching after the woof is complete. The method of weaving cloth

specially for the form of garments, and of hemming and stitching such garments, is described and illustrated. Such technical descriptions and explanations are much needed in order to understand the complex development of ancient crafts, and their relation to modern work. A study like this at once adds life and value to collections, which otherwise are merely a subject of ignorant wonder to the usual antiquary or excavator. Anyone who wishes to understand the subject should get this account and study it.

The writer does not touch on the origin of the embroidery patches on Coptic garments, which seem to be utilitarian to prevent wear and tear. The two main pieces are large ovals at the knees, then lesser ovals over the breasts, and broad stripes across the shoulders. Whether darning or patching the wear originated the use of embroidery on those parts, or whether the decoration was put on as a preventive, we do not yet know.

The reader should correct two serious misprints : on p. 4 the warp threads are 140 not 540 to the inch ; and on p. 32, in the first column of dates, 1738 should be put to the XVIIth dynasty.

Culture of the Ancient Pueblos of . . . New Mexico and Arizona.—By WALTER HOUGH. Smithsonian Institution, Bulletin 87. 1914. 133 pp., 29 plates, 348 figures.

Though purely American, this account contains some interesting parallels to Egyptian products. There is an extensive system of dedicating offerings of all kinds to the gods, and placing such offerings in caves, where they have been long preserved. Such objects are called *paho.* The *pahos* described are of twigs, hooked sticks, bows and arrows, bird carvings, feathers, fire, cigarettes, fire-sticks, dress, model baskets and flutes. Those which are of more interest to us are the models of animals roughly pinched up in clay (Figs. 260–275), exactly like the model animals found at Kahun, where they were apparently toys made by children (*see* p. 165, Vol. 1914). Another curious parallel is in the reed gaming sticks or dice, which are long slips split off a reed, with the knots painted, the throw being determined by whether the slip fell inside or outside uppermost. This is exactly what was found carved in ivory in the tomb of King Qa (*Royal Tombs*, I, xvii, 30, p. 23), and like the slips of reed used in gaming in Egypt at present. All such usages similar to those in Egypt serve to illustrate the mode of thought and the use of objects.

NOTES AND NEWS.

THE war naturally overshadows every other care and activity. We can only hope to keep the constructive interests alive for the present, so that they may revive again after the scourge on civilisation may be ended. Mr. Brunton and Dr. Amsden are at their posts still, at Netley and Cooden Beach. Mr. Engelbach, after his recent marriage, is daily expecting to be sent abroad from Sheerness. Mr. Angelo Hayter is now in the censorship of letters. Mr. Duncan Willey has found a fit scope for his Arabic as Assistant Political Officer to the High Commissioner in the Persian Gulf.

The Egyptian collection at University College, London, has been partly arranged during the winter, and will be thrown open to the public, in lieu of the usual Exhibition at the College, for a month from June 7. After that it will continue to be accessible to the public on application. The facility of study with a library and collection side by side, may, we hope, carry out the intentions of Miss Edwards in establishing that centre for the subject. We hope in our next number to give readers a sketch of the scope of the collection, and some views of it.

THE PORTRAIT.

THE charming head of a limestone statuette, which we give in this number, was one of the treasured acquisitions of Dr. Capart at the Brussels Museum; we hope that he may long continue to guard it there. It represents a high class Egyptian, doubtless of Thebes, at the close of the XVIIIth dynasty. A comparison of the treatment of the face—especially the lips—with the statue of Tutonkhamen (*Arts and Crafts*, Fig. 38) shows that it comes from the same period and schools, we may almost say from the same artist. It has much of the Syrianised refinement of type in profile, but is not so light and graceful. In front view it shows a curious heaviness in the width about the ears. The eye is small compared with the usual type, and is even smaller than the modern English proportion. These features give an air of dogged reserve which is unusual, and hardly accords with the freedom of the mouth. It is clearly a strict portrait as it departs from the usual type, so familiar in the works of that age. The piercing of the ears for wearing ear studs was then a fashion, seen in the statues of Akhenaten and Rameses; yet, strange to say, we have no male head shown with the ear studs, which only appear on a few statuettes and coffins of women.

THE ANNUAL EXHIBITION AT UNIVERSITY COLLEGE WILL BE OPEN JUNE 7 TO JULY 3, 10 TO 5; EVENINGS OF JUNE 10, 15, AND 25, 7 TO 8.30.

HEAD OF AN OFFICIAL, XVIIITH DYNASTY, IN LIMESTONE. BRUSSELS MUSEUM.

HEAD OF AN OFFICIAL, XVIIITH DYNASTY,
IN LIMESTONE. BRUSSELS MUSEUM.

WOODEN STATUETTES OF SENUSERT I., FROM LISHT.

ANCIENT EGYPT.

EXCAVATIONS AT THE SOUTH PYRAMID OF LISHT IN 1914.

REPORT FROM THE METROPOLITAN MUSEUM, NEW YORK.

THE programme of work carried out at the Pyramids of Lisht by the Museum Expedition during the season of 1913–14 consisted of two parts: (1) that at the North Pyramid, and (2) that at the South Pyramid, which is of King Sesostris (Senusert) I, of the XIIth dynasty.

As the work progressed, we exposed first two small pyramids lying between the inner and outer enclosure-walls of the pyramid (see Fig. 1), both of them stripped of their outer casing-blocks, the western one constructed with a core of small, roughly cubical blocks of limestone, the eastern one with a core of sun-dried brick which had originally been encased with limestone. The entrance-passage of the small stone-pyramid was opened by the French Expedition and found to have been completely plundered in ancient times. The entrance to the other small pyramid was about 2 m. square, descending perpendicularly through the bed-rock of the plateau to a depth of about 15 m., where a passage led off diagonally north-east to a chamber approximately under the centre of the pyramid. The filling of the shaft consisted of Nile mud packed down so hard that the implements of our workmen could with difficulty be driven into it, thus showing the great length of time that it had lain undisturbed; but the presence of broken pottery vessels and other material in the filling at various points prepared us for the result which we finally derived—the chamber had been completely plundered at some ancient period.

Of the limestone casing with which the mud-brick core of this pyramid was originally covered, and also of the platform of limestone blocks upon which the structure had rested, a sufficient amount remained to render it certain that the pyramid had had a chapel on its eastern side toward the Nile valley, while under the platform there was found at each of the four corners of the pyramid a "foundation-deposit." These were practically identical in character and in each instance had been placed in a square pocket about 80 cm. in diameter and 1 metre in depth, excavated in the bed-rock upon which the platform rested. The bottom of the pocket had been covered in each case with about 5 cm. of clean gravel upon which were some twenty-five to thirty small pottery model dishes and vases, while scattered among them were a number of small lozenge-shaped blue glazed beads. On these objects were laid the skull and some of the bones of an ox which had been sacrificed as a part of the ceremonial. The pocket had then been completely filled with gravel in which, at about half its depth, was laid a small model brick of sun-dried Nile mud. Finally the pockets were covered by massive limestone blocks which in each case formed the corner blocks of the pyramid-platform.[1]

[1] This is precisely like the deposits of the second pyramid of Lahun (W. M. F. P.).

As our work progressed to the eastward beyond the outer enclosure-wall of the Pyramid of Sesostris, a large mastaba-tomb was disclosed situated in the angle formed by the enclosure-wall and the temple-causeway, of one of the great officials of Sesostris, "The Hereditary Prince and Count, Treasurer, High Priest of

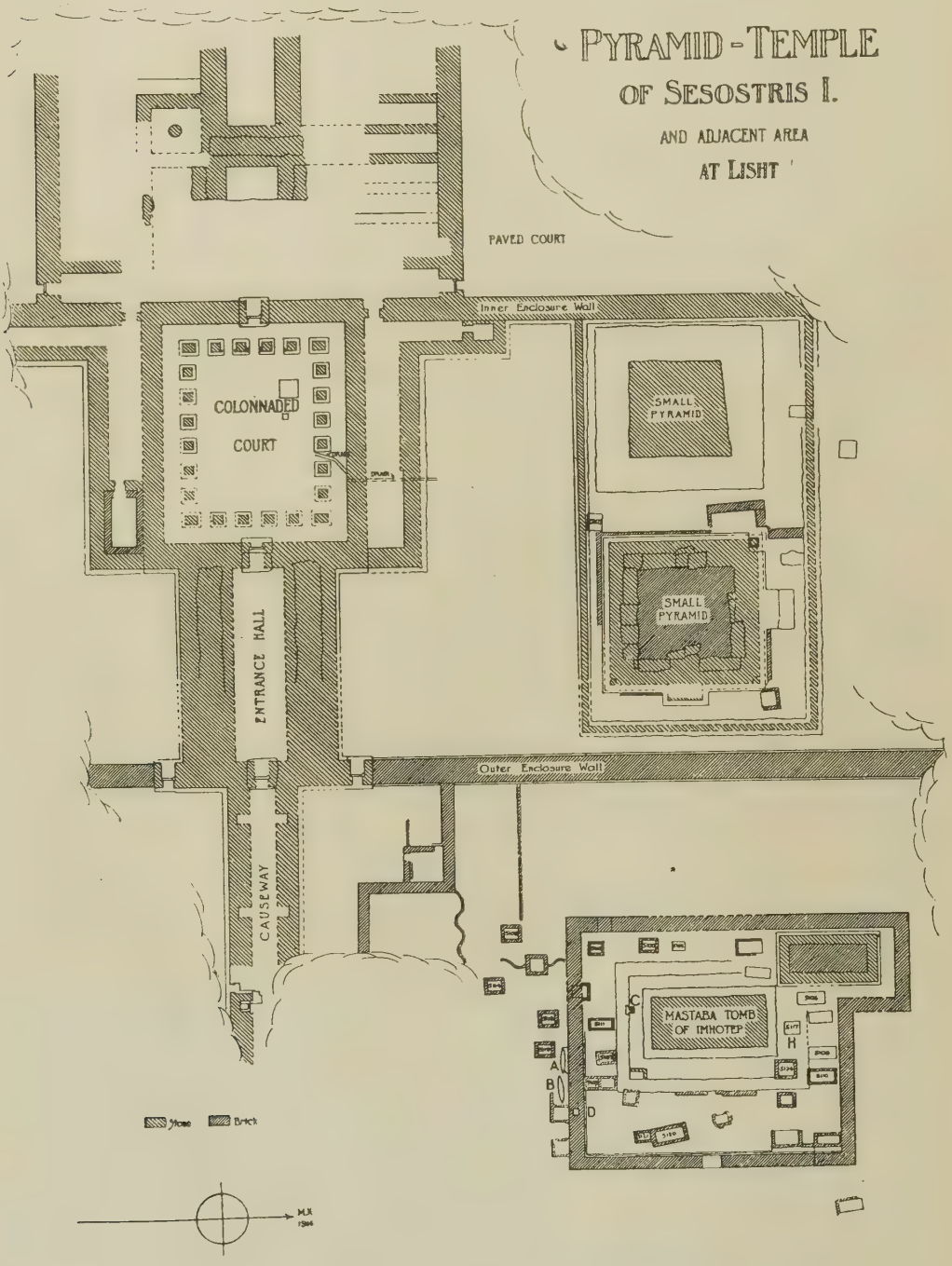


FIG. 1. TEMPLE OF SENUSERT I AT LISHT, WITH SURROUNDING WALLS AND TOMBS.

Heliopolis, Priest of Horus, Priest of Min, Chief Scribe of Divine Records, Superintendent of Land, Superintendent of all works, the King's Favourite, Great in his office, Imhotep."

As our excavation of the ground around the tomb of Imhotep proceeded, the section immediately south of the tomb, including its enclosure-wall on that southern side, began to yield evidence of particular interest. Along the outer (southern) side of the wall the excavations were carried below the original surface level at the time of the construction of the wall in the XIIth dynasty, and at the points marked A and B on the plan in Fig. 1 there were found two divine barks, each about 2·75 m. (9 feet) in length. A photograph of that at A is shown in Fig. 2. In shape it was of the "papyrus form" type with straight rising prow and recurving stern, its body fashioned from a solid log of wood, with the prow and stern posts dowelled to it. The rails along the deck were likewise attached by dowels. The

Fig. 2. Ceremonial Boat Buried beside Enclosure Wall.

gunwales where the rails stood bore traces of red, though no evidences of painting were preserved on other parts of the boat. It was in an excellent state of preservation.

The second boat, at B on the plan, was of the same form but was constructed of light boards or slats and was in too disintegrated a condition to be removed. The prow, however, showed evidence of having been painted in stripes of blue, green, and red.

Following the discovery of these boats, our excavations on the inner or northern side of the enclosure-wall near by brought to light, at the point marked C on the plan (Fig. 1), remains of two other boats of a rarely occurring type known as solar barks. The remains consisted of two prow and stern posts, together with two complete sets of the symbolical or magical objects which occur upon the decks of boats of this kind, as on that in the Cairo Museum.

For some days as we had been clearing this section of ground our basket boys had been running over the enclosure wall to dump into the cars just outside, and the fact that a crack had remained open in spite of the dust and dirt constantly falling from their baskets finally attracted attention. As no one had ever known or thought of the existence of antiquities in the heart of a mud-brick enclosure-wall, I was entirely unprepared for the sight that met my eye when I threw the light of an electric lamp down through the opening in the brickwork. As far as the size of the crack allowed me to see, there appeared to be, close below, a chamber of moderate size, while immediately under the opening I looked down

Fig. 3. A. Position of Boat, Fig. 2. B. Second Boat. C. Place of Two other Boats. D. Chamber with Statuettes, in the Wall.

on the tops of two wooden statuettes, each wearing a royal crown, one the white crown of Upper Egypt, the other the red crown of Lower Egypt. Beyond this, I could not see much of the detail of the figures or whether the chamber contained anything besides the statuettes.

As it was then about six o'clock in the evening and nothing could be done before darkness to investigate further, about a dozen of our workmen were detailed to spend the night there as guards. Early the following morning the work of investigation was taken up in earnest and photographs were first made of the actual state of the wall (see Fig. 3). It was impossible to see what the nature of the roofing of the chamber was and, for fear that any attempt to remove the brickwork

above the chamber might result in the collapse of the roofing upon the objects below, it seemed best to begin to remove the bricks at a point beyond the extent of the chamber and so, working in to it from the side, determine the character of its roofing. This finally showed the roofing to consist of boards, which spanned the chamber and supported the courses of bricks laid across them above. As the boards were in sound condition, it was then possible to remove the brickwork above them and finally the board-roofing itself. The chamber proved to be about 65 cm. (26 inches) square, and approximately the same in height, its sides and bottom being lined with a pinkish-coloured plaster (Fig. 4). At the back against its western end stood the two royal figures, side by side and facing eastward. Each was in its proper position in relation to the division of the country which it

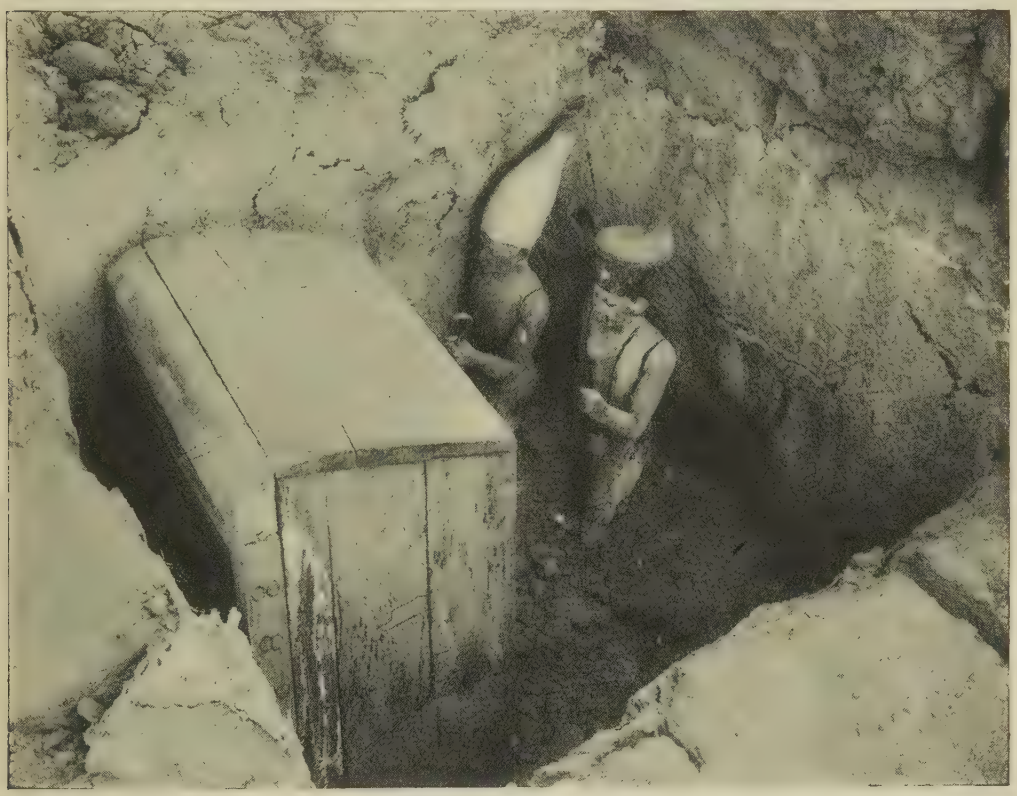


Fig. 4. Chamber with Shrine and Statuettes.

represented, that as king of Upper Egypt (Fig. 7) to the south, that of Lower Egypt to the north (see portrait at end). In front of them and occupying most of the remaining part of the chamber was a wooden shrine. Apparently at the period when the wall had been stripped and before it had become buried under the drifting desert sand, enough dirt and moisture had entered the chamber through the roofing to form a hard packed layer over the floor to a depth of about 10 cm.

The statuettes, which were of cedar, were identical in pose and of practically the same size, that with the white crown measuring 56 cm. (22 inches), the other wearing the red crown 58 cm. (23 inches) in height. They represented the king, nude except for a short white skirt falling from the waist to the knees, standing in a vigorous attitude with the left foot advanced, and grasping with his extended left hand the *Ḥḳ* sceptre. To represent the skirt in each case, a thin layer of stucco had been applied to the wood and then painted, the folds of the skirt being

denoted in fine red lines. In the same way the crowns were treated with stucco and painted. The nude parts of the figures bore traces of having been represented in a pinkish flesh colour applied directly on the wood, and the eyes also had been painted. (See *frontispiece.*)

In the delicacy and subtlety of their modelling, these figures exhibit finer qualities in sculpture than anything previously known from this period of the Middle Kingdom. The rendering of the features and of the muscular development of the body, as well as the treatment of such details as the ears, hands, and feet, prove more clearly than some of the larger sculptures of the same dynasty—as for example the series of life-size seated statues of the same king also from Lisht and now in the Cairo Museum—that Middle Kingdom sculpture at its best has lost

Fig. 5. Wooden Shrine closed.

Fig. 6. Wooden Shrine open.

neither the virility nor the realism of the work of the Old Kingdom, but with these has acquired certain refinements and subtleties of modelling which remove it from the archaism of the earlier work. Although these statuettes are uninscribed, yet they must obviously represent Sesostris I, whom Imhotep served in life and near whom he was buried.

To describe now the remaining object in the chamber—the shrine (Fig. 5), made of wood and painted yellow, was of the usual shape with curved top and had double doors fastened by the regulation form of wooden bolt sliding in three copper staples. It measured 58·7 cm. (23·1 inches) in height, 31·5 cm. (11·4 inches) in width, and 22·5 cm. (8·9 inches) in depth. Our natural supposition was that it must contain the figure of some divinity, but when the bolt was thrown back and

its doors opened it held an object of which the significance was not at first apparent. (See Fig.6.) This was an alabaster ointment vase, of a shape common to the Middle Kingdom, 9 cm. ($3\frac{1}{2}$ inches) high and 10 cm. (4 inches) in diameter at the top. The vase was about two thirds full of a bluish-coloured ointment, now completely hardened, in which was immersed a cedar rod, about 53 cm. (21 inches) in length and 1·5 cm. in diameter at the point where it entered the ointment. Except for a few centimetres above this point, where it was bare, the rod was completely enveloped in a linen covering carefully sewed on with fine stitches down one side and then carried around a prong-like projection from the lower part of the rod.

The floor of the shrine was covered with the dried shells of hundreds of small beetles which had attacked the covering in antiquity and eaten away its upper part sufficiently to expose the top of the rod, which was knob-like in shape. From the bulky appearance of the covering it seemed as if it must include something more than the slender rod.

With the removal of the outer covering, a regular process of bandaging appeared, the bandages as they were unwound proving to run in much the same fashion as that employed in the wrapping of a mummy, one wound around from right to left and one from left to right, in spiral fashion up and down, while small pads of linen soon began to appear among the bandages to fill out the corners of some object which it was now apparent

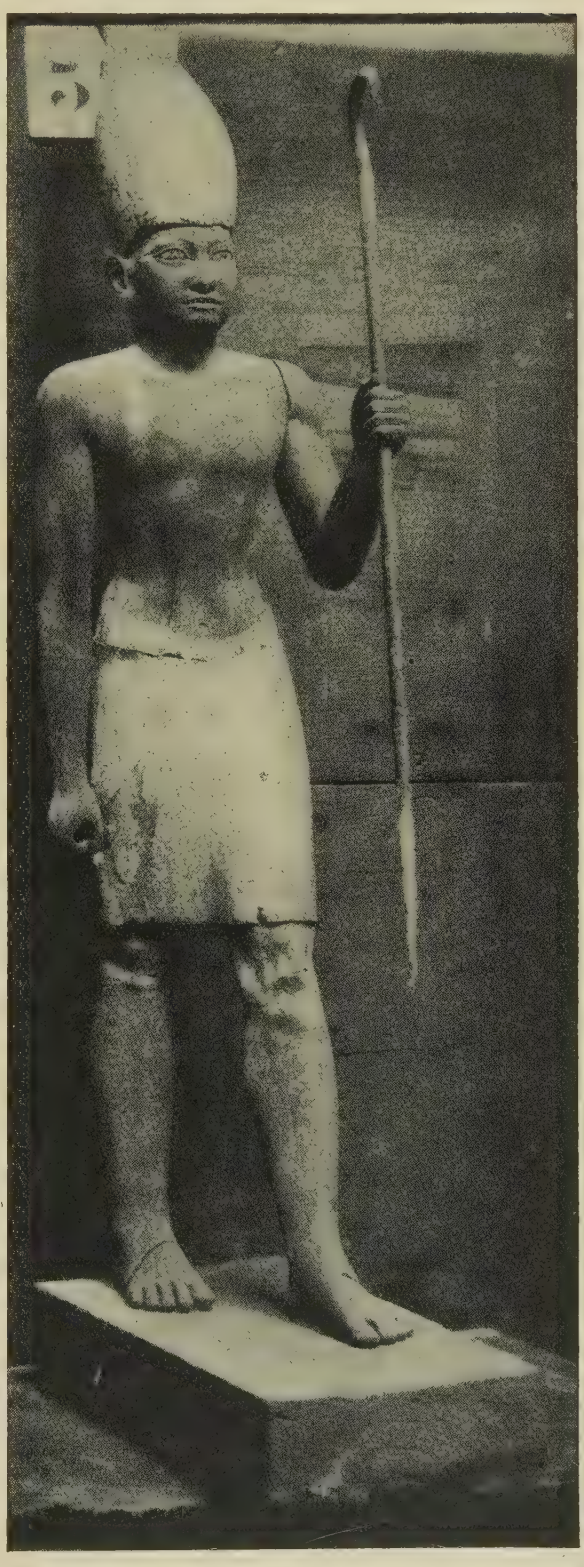


Fig. 7. Statuette of Senusert I as King of Upper Egypt. Cairo Museum.

had been wrapped against the rod. Altogether, thirty-three bandages and pads proved to have been used in the process, and finally the object thus wrapped against the rod was found to be a "dummy" animal—made of wadded linen cloth covered with skin having fine, short hair. This representation of an animal had also been wrapped with linen bandages before it had been wrapped against the rod, and was represented with the head cut off, the neck and fore legs hanging down. (See Fig. 8.)

The significance of the contents of the shrine then became apparent—it held the only known example of the "Anubis-symbol," the emblem or symbol of the

FIG. 8. ANUBIS SYMBOL UNWRAPPED, ON STICK STANDING IN ALABASTER JAR.

god Anubis who presided over the embalming and served as the protector of the mummy. As pictured on the monuments it occurs occasionally as the symbol of Osiris also, probably through a confusion of the functions of the two deities, but in either case it is of the same form and identical with the example we now have.

This series of objects—the shrine and its sacred symbol, the royal statuettes, the divine barks, and finally the solar barks—is unique both in character and in the manner of its occurrence. It has added an interesting and important chapter

to our knowledge of Egyptian funerary archaeology in the Middle Kingdom, but at the same time it presents new problems which can be hardly touched upon within the scope of this report.

Near the gateway of the enclosure there was also found an object of much interest which had evidently been dropped by some plunderer as he was leaving the cemetery. This was an ushabti-box, with its ushabti, which had belonged to the Prince Wehnefer-hetep. The box, which was of the same shape as the coffins of this period, rectangular with curved lid, was painted red and ornamented with bands of gold-leaf on which inscriptions were painted in blue. One band extended down the centre of the lid, another horizontally around the sides of the box near the top, while, from the latter, shorter perpendicular bands ran down the corners and the sides. On one side was the usual eye-panel found on the coffins.

The ushabti itself was wrapped in linen bandages like a mummy and was lying on its left side with the face to the back of the eye-panel, in the same position in which the body was placed in the coffin at this time. When unwrapped, the ushabti was found to be of wood completely covered with gold-leaf, except for the wig, which was of blue stucco. On the front of the ushabti an inscription was painted in blue, in horizontal lines, which was of the regular character that occurs on ushabtis of the Empire and later periods. The occurrence of the inscription is noteworthy because this regular form of ushabti inscription is rarely met with during the Middle Kingdom.

ALBERT M. LYTHGOE.

A THIRD CENTURY STATUETTE IN THE VICTORIA AND ALBERT MUSEUM.

SOME little time ago, *The Burlington Magazine* published a note by Prof. Lethaby upon an exceedingly interesting little Mother and Child in wood. Although this statuette has been for some years in our National Collection in the Victoria and Albert Museum, it had never before been brought to the notice of the Art world.

Together with other objects, it was presented to the Museum in 1897 by the Egypt Exploration Fund; and being then described as possibly the Virgin and Child, Prof. Lethaby was led to ask, was it not perhaps "The Oldest Statuette of the Madonna." Whatever the subject, there is no doubt of its exceeding interest as a relic of the art of woodcarving, transitional between the Hellenism of the Ptolemaic period, and the later movement towards the grave and formal ideals of Byzantine and Coptic art.

The Professor's article was in a sense tentative: written with the view of ascertaining whether this was indeed the oldest statuette of the Madonna, or merely a doll. A letter by the present writer appeared subsequently, in which it was sought to show that, in view of the assigned date and place of discovery, it was perhaps rather a statuette of Isis and Horus. An answering letter from the Professor accompanied this, in which he seemed quite prepared to forego the Madonna hypothesis in favour of his previously advanced Doll theory.

The matter being scarcely more advanced by this correspondence, it would be a matter for regret if so unique an object should again drop into oblivion without at least an attempt to clear away the doubts respecting it. The first question that naturally arises, is, "Can the date ascribed to the statuette be accepted as conclusive?" In order to place this beyond reasonable doubt we must remember whence it came, and by whom it was probably unearthed.

Behneseh—the place of discovery—is a small village situated on the west of the desert, one hundred and twenty miles south of Cairo. It is the site of the ancient city of Oxyrhynchus, the capital of the Oxyrhynchite Nome in those days. In the Autumn of 1896 Prof. Petrie went out to Behneseh, arriving there at the beginning of December. Messrs. Grenfell and Hunt followed, arriving on December the 20th. Before the advent of the latter gentlemen, Petrie had superintended the erection of huts for the party, and made a preliminary survey, digging for about a week on the site of the Graeco-Roman cemetery. When Messrs. Grenfell and Hunt joined him he handed over the direction of affairs to them and proceeded himself farther afield.

It was after his departure that the bulk of the work of excavation was carried out, and our statuette was turned up during the operations of Messrs. Grenfell and Hunt. But the finding of the celebrated Oxyrhynchus Papyri naturally threw into comparative obscurity other interesting *antikas* which were unearthed at the time; so we are not surprised to find that Mr. Grenfell's report to the Exploration Fund is to a great extent occupied with literary matters.

The statuette most probably came from the before-mentioned Graeco-Roman cemetery, west of the town, of the tombs of which Grenfell tells us many had been anciently plundered, and the most of the remainder were not earlier than the third century. One of several linen dolls, stuffed with papyrus, found at the same time, is to be seen in the Victoria and Albert Museum, and is, I am assured, correctly dated in the third century.

I should like to point out, too, though not necessarily as an argument, a curious resemblance between the head of our statuette and a head of white marble in the Musée Aloui, found at Zaghouan. The coiffure is similar in each and the austere features are not unlike. It, too, is of the third century.

All things then considered, we may safely conclude that the assigned date is approximately correct.

The question now arises whether the acceptance of this date excludes the theory that it is a Madonna and Child. There is no indication whatever that it need be regarded as a product of Christian art. In fact, such evidence as may be deduced would seem to point to the contrary. Prof. Lethaby, in his article, refers to the Hellenic feeling about the figure of the mother. This of itself does not of course militate against its being a Madonna, but the fact suggests at least a pagan influence ; and the third century date of course excludes any Byzantine affinity as suggested by the Professor. On the other hand, Egypto-Roman statuettes of Isis and Horus exist which are decidedly Hellenic in feeling, although the cult of Isis never underwent Hellenisation in idea, as did most of the Egyptian deities. Again, Grenfell, in his report to the Exploration Fund, does not mention a single Christian relic as being turned up from the Graeco-Roman cemetery. On the contrary, he particularises short limestone figures carved in relief—two Gryphons and a Criosphinx—all distinctly pagan objects. If still further proof be needed it may be recalled that St. Augustine, who died A.D. 604, expressly states that the introduction of such visible objects as images into the churches, was in his day regarded as unlawful. Even pictures (other than symbolical representations) were not allowed in churches until well into the fourth century. The XXXVIIIth Canon of the Council of Elvira (A.D. 342) strictly forbade them. And although as time went on both pictures and images were tolerated, it was not until after the IInd Council of Nicaea (A.D. 787) that the Fathers encouraged their use. The theory of a Madonna and Child of the third century, therefore, is not to be entertained.

If not a Madonna, equally it cannot be regarded as a doll. If this idea had not been reiterated I should not have entertained it seriously. But having been put forth in all seriousness, the hypothesis must be examined. True there is a decided resemblance between the statuette and the "Holzpuppe" from Achmin in the Forrer Collection, and if the latter were proved to be a doll it might form an argument. But *is* the Forrer specimen a doll? I very much doubt it. In fact the more one studies these early statuettes, the more patent becomes the fact that they are, many of them, not dolls at all.

It is a demonstrable fact, that, from prehistoric times down to this present day, the little ones of the world have always had a decided preference for dolls that require to be dressed. That is to say they are, and have ever been, produced

for the most part in a state of nudity, which has grown more delicate and less obtrusive in these later days. There is nothing in experience more tenacious than such an instinct, and one may feel sure that figures invested with drapery in the modelling would not appeal to the child-mind. Moreover, both our statuette, and that figured by Forrer, stand upon pedestal-like blocks of wood,—surely an unnecessary and inconvenient appendage to a doll.

Quite apart from these considerations the fact that the statuette is a Mother and Child disposes of the doll theory *in toto*. Children are the same the world over and at all times. Their instincts are essentially primitive and therefore the more stable. Now a doll satisfies the incipient mother-instinct in every little maid, whether she live in Egypt or England—ancient Oxyrhynchus or modern London. Is it then to be supposed that any "little mother" would welcome as a doll a figure which itself holds a baby in its arms? I think not. Children do not play at nursing adult females with babes in arms. The doll is to them a baby, to be dressed and nursed, undressed and put to bed.

This same argument may be advanced, and quite as reasonably, with regard to the terra-cotta figurines mentioned by the Professor. A similar objection may be raised to all so-called dolls which are clearly adults,—in most cases plainly feminine.

If not dolls what then, it may be asked, are these figures? I think some are votive figures, some perhaps amulets; and the statuette we are considering may well be classed with the former. I have considered the possibility of its being Isis and Horus; this hypothesis was offered as an alternative to the untenable Madonna theory. Considering the matter further, however, there is no denying that there are objections to the idea. The greatest perhaps is the absence of any distinctive headdress on either figure. One would naturally expect to find at least some indication of such, but there is not the slightest trace of any having ever formed part of the figures. To this consideration may be added the unusual position of the child and its form. Also the general lack of that sensuous feeling one would expect to find in a statue devoted to the cult of Isis. If, however, we examine the object in the light of its being a votive figure the difficulties clear away.

The custom of placing votive objects at the shrines of deities and saints is of extreme antiquity, and at the time when our statuette was carved the usage was very popular, not only with the Egypto-Romans who were pagans, but also among the Christians. Intent upon the dominant influence of the period, we must yet grasp the fact that paganism was very far from being abolished when it was officially discountenanced. In fact, some distinctly pagan usages were tolerated even in the Christian churches. The practice of offering votive objects was one of these, and it even yet exists in many places, though at the Council of Lestines (A.D. 743) it was condemned as pagan. Theodoret in the fifth century, on the other hand, speaks in words of distinct approval of the practice prevalent in his day of suspending votive offerings in the churches.

A votive object was in effect a materialised prayer of: (1) Petition (as of the childless in hope of offspring); (2) Oblation (as of parents offering their children that the Divine blessing might fall upon them); or (3) Thanksgiving (on recovery from illness or escape from danger).

The statuette in question would possibly fall under the second of these heads, and I fail to see any serious objection to such a conclusion.

The ascribed date, far from excluding the idea, makes it probable, and whether it were found in association with Christian or pagan remains, the

probability is equally applicable. Moreover, such a figure naturally would be represented dressed, and the workmanship might be elaborate or distinctly otherwise (as in this case). It would be quite in keeping that the figures should be formal, and that the child should be wrapped in swaddling clothes (note the lower extremities of the child, how they terminate in a point). The unusual position of the child, too, is understandable in the supposition that the mother is offering her child as an oblation to the Higher Powers. This position of the infant, held forth with its back to its mother—its natural protector—and in such an attitude, seems indeed to give a finality to the argument that the statuette is indeed a votive figure.

Whether it be pagan or Christian it is impossible to say definitely; in any case it is certainly pagan in conception.

CYRIL G. E. BUNT.

ARCHAIC BURIALS AT MARSA MAṬRÛḤ.

In the winter of 1913–1914 I carried out, in conjunction with my friend Mr. W. J. Harding King, a brief archaeological survey in the vicinity of Marsa Maṭrûḥ. This place, which represents the Graeco-Roman Paraetonium, is situated on a small harbour[1] on the Marmaric coast, some 150 miles west of Alexandria. Because of its geographical position with regard to Cyrenaica and the Gebel el-'Aḳabah in the west, Crete in the north, the Oasis of Sîwah (Ammonium) in the south, and the Nile Delta in the east, Marsa Maṭrûḥ had struck me, when I first visited it in 1910, as a very promising site on which to search for Libyan remains. This impression suggested by the geographical factors was further supported by topographical ones. Not only was the port the one good haven in the long stretch from Ṭobruk to Alexandria, but it had agricultural advantages as well. Between the coast at Maṭrûḥ and the rise of the desert plateau, some six or seven miles to the south, is interposed a great loess plain. Although the vegetation in Marmarica depends almost wholly on the rainfall, the richness of the soil and the size of the fertile area in the vicinity of Maṭrûḥ must have attracted and sustained a population at a very early period. The evidence of agricultural activity in Roman times (threshing-floors, vats, cisterns, olive-presses, etc.) are numerous; and in the late third, or early fourth, century of our era, Paraetonium was very naturally the centre at which the government grain-tithes were paid in.[2]

In the reconnaissance carried out by Mr. Harding King and myself, a great number of Roman burials and Graeco-Roman rock-tombs were excavated and recorded, together with other remains of a late period. With these it is not necessary here to deal, since in the present note I wish only to describe some archaic graves found about two miles to the east of the Coastguard Barracks at Maṭrûḥ.

The graves in question were five in number, and were situated on a small limestone spur which projected from the northern face of a long east and west ridge (Fig. 1). They were entered in the records as A. 1, A. 2, etc. The spur was conspicuous as having on its summit a modern Arab burial encircled—as is common in these parts[3]—by a wall of loose stones. The ancient graves were on the eastern side of the spur, near its highest part, about 30 metres above sea level. The place they occupied had suffered denudation from the action both of wind and of rain, so that in some places the bare rock was exposed. The disposition of the graves is shown in the photograph of the site after clearing (Fig. 2). The group was an isolated one; the whole spur, except at one point which was occupied by the modern Arab tomb, was carefully examined without the discovery of any other ancient interments.

The graves were roughly elliptical in plan, the average dimensions being about 1 m. 50 cm. (5 feet) from east to west, and *ca.* 110 cm. (3½ feet) from north to south. The average depth was only 30–40 cm. (12–16 inches), though originally, before the denudation of the spur, they were deeper. But even when they were

[1] The harbour was anciently larger than at present, having had a length of 40 stadia in Strabo's time (*Geogr.*, XVII, p. 798). Sand-bars of recent formation have, despite coastal depression, cut off the ends of the harbour, which is now flanked by lagoons.

[2] *Oxyrrhynchus Papyri*, IX, 1221 (p. 265). Isidore to Demetrian.

[3] O. Bates, *Nomad Burials in Marmarica*, in *Man*, Vol. XIII, No. 10, Art. 88.

made they were dug a few centimetres into the soft limestone underlying the stony soil, which was therefore perhaps not very deep. The graves were marked in no discernable way whatever, though in their vicinity, on the west face of the spur,

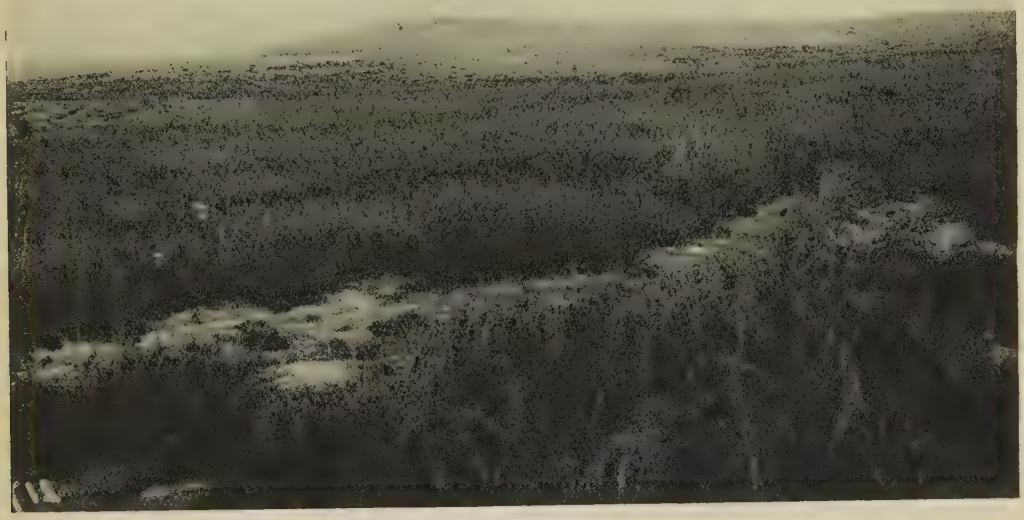


Fig. 1. View of Limestone Spur containing Burials.

Fig. 2. Positions of Graves opened.

were a few little cairns of small stones, weathered almost level with the ground, and containing nothing. Such cairns are commonly found in Marmarica outside the cultivated areas, and are of a nature as yet unknown.

Of the five graves in Cemetery A, three (A. 3, A. 4, and A. 5) were found to be completely cleared out. This I attribute to denudation, which exposed the contents of the graves to consequent weathering or plundering. A. 1 and A. 2

Fig. 3. Skeleton and Objects in Grave 1.

Fig. 5. Skeleton and Objects in Grave 2.

contained skeletal remains, the original form of the interment being clearly discernable, though the bones were in a hopelessly fragile state. A. 1 contained

the remains of a body lying on its left side, head east (Figs. 3 and 4*a*, *b*). The body was in a position of "intermediate" contraction, the right femur being at an angle of 90° to the spine. The left leg was less acutely flexed. The right arm was bent at the elbow, the forearm being practically parallel with the right femur.

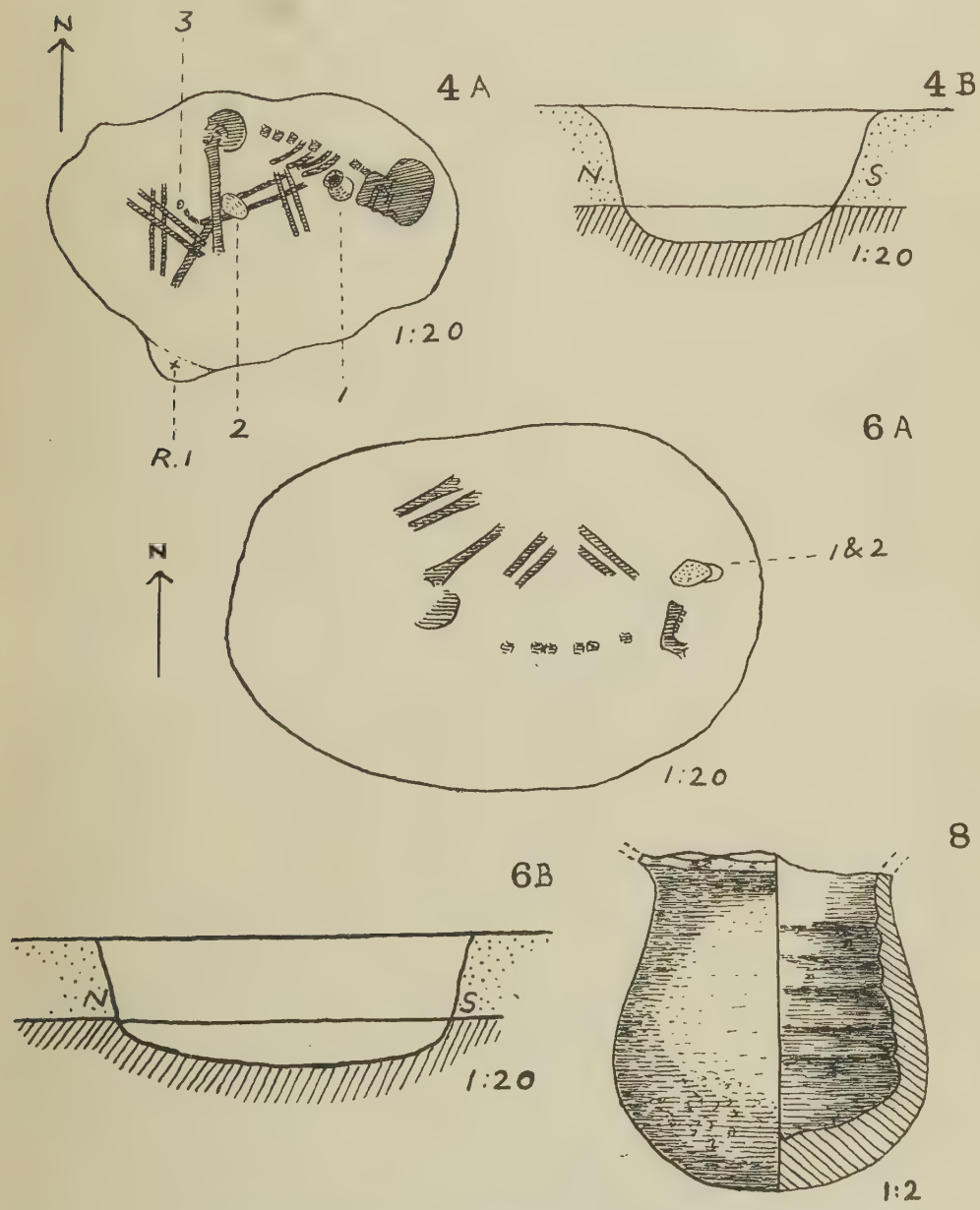
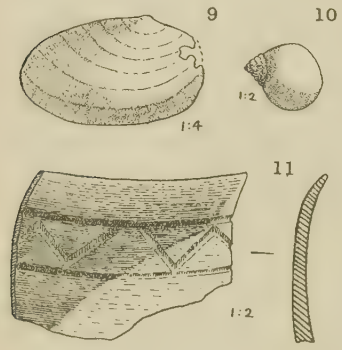


Fig. 4, Grave 1. Fig. 6, Grave 2. Fig. 8, Basalt Vase, Grave 1.

The left arm was straight, the left hand thrust between the knees. A. 2 was in a worse state of preservation than A. 1. In this second case the body lay on the right side, head east (Figs. 5 and 6*a*, *b*). The left elbow was bent, the left hand having been somewhere near the face. Of the head nothing remained beyond a fragment of the lower jaw and six teeth.

Contents: A. 1 (110 × 76 × −35 cm.) contained :—

$\frac{A.1}{1}$. A small jar of basalt, placed between the chin and throat (for position, Figs. 3 and 4*a*; Fig. 7; Fig. 8). Height, 9·0 cm. (minimum); diameter at widest part, 8·3 cm. The boring had been done with a winged drill, which scored the interior of the walls horizontally (Fig 8.) The bore expanded so as to follow approximately the outer walls of the vessel. Bottom, 1·3 cm. thick. Lip, thin (0·38 cm. at spring), and in no place complete. Short hair-like striae of polishing outside, and, in two places, traces of pecking.



Figs. 9–11, Shells and Shard, Grave 1.

$\frac{A.1}{2}$. Thin pearly shell (Fig. 9), found just above the right femur, lying hollow side up. The shell proved to be an *Iridina* (Lam.) of the fluviatile *Unionidae*—an important point, since it is thus almost unquestionably of Nilotic origin.[1]

$\frac{A.1}{3}$. A shell near the left hand, in the angle made by the bent right leg. This shell (Fig. 10) was almost certainly intrusive, as these helices (*Helix nucula*) are very plentiful in Marmarica, and are often found, even at a depth of 50 or 75 cm., below the surface of undisturbed earth.

$\frac{A.1}{R.0}$. Several shards of pottery, apparently weathered out of the grave, and found on the surface. Among these fragments, which were all from the same pot, was one piece of the lip, showing a zone of roughly incised decoration (Fig. 11). The ware was of a sandy, black fabric, pebble-smoothed inside, with traces of a greenish-black slip outside. The walls of the pot were fairly thick.

$\frac{A.1}{R.1}$. A vase of basalt, from the filling of the grave, *ca.* 35 cm. south of the left knee, 5 cm. deep (Fig. 12—the light spots in the photograph represent small deposits of lime which have formed on the outer surface of the vessel). Same technique as $\frac{A.1}{1}$, but with cylindrical bore (Fig. 13). Height, 8·7 (minimum); diameter across bottom, 11·5 cm. on minimum axis, and 11·75 on maximum axis. Lip, thin (0·30 cm. at spring), and in no place complete.

$\frac{A.1}{R.2}$. Fragments of a small jar from the central filling of the grave. When these were pieced together, about half of the original vase was missing, but the form was accurately determinable (Figs. 14 and 15). Soft, fairly coarse, buff ware; faint reddish tinge in two places, due to irregular firing; irregular black core in thicker parts, especially near bottom, due to same cause (see section shown in Fig. 15); some minute whitish specks in the clay. Inside of neck partly pebble-smoothed, outside wholly so. Height, 11·6 cm.; diameter across top, 8·2 cm.; diameter at widest part, 10·1 cm.; thickness of walls at rim, 0·5 cm.; at point below shoulder, *ca.* 0·9 cm.; at bottom, 0·6 cm.

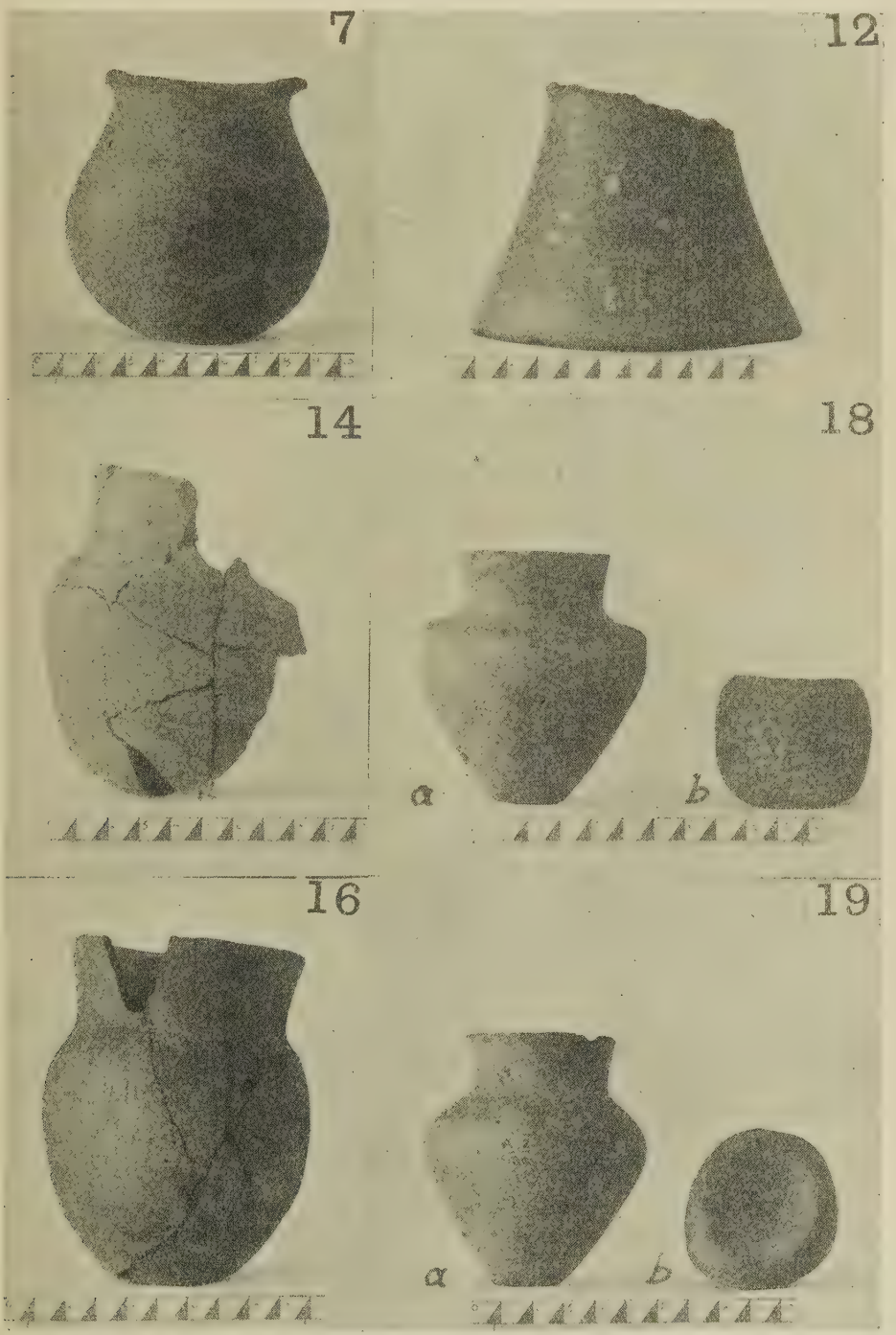
$\frac{A.1}{R.3}$ and $\frac{A.1}{R.4}$. Two *Iridina* shells, like $\frac{A.1}{2}$, found in the filling of the grave, just under $\frac{A.1}{R.1}$.

A. 2 (146 × 100 × −35 cm.) contained :

$\frac{A.2}{1}$ and $\frac{A.2}{2}$. Two *Iridina* shells, like $\frac{A.1}{2}$, $\frac{A.1}{R.3}$, $\frac{A.1}{R.4}$. The shells were found in front of the chin (Figs. 5 and 6*a*).

[1] I am indebted to Mr. W. F. Hume, of the Geological Section of the Egyptian Survey Department, for this identification, as for that of $\frac{A.1}{3}$.

$\frac{A.\ 2}{R.\ 1}$. Fragments of a small jar scattered through the central filling of the grave. When pieced together it was nearly perfect (Figs. 16 and 17). Fairly

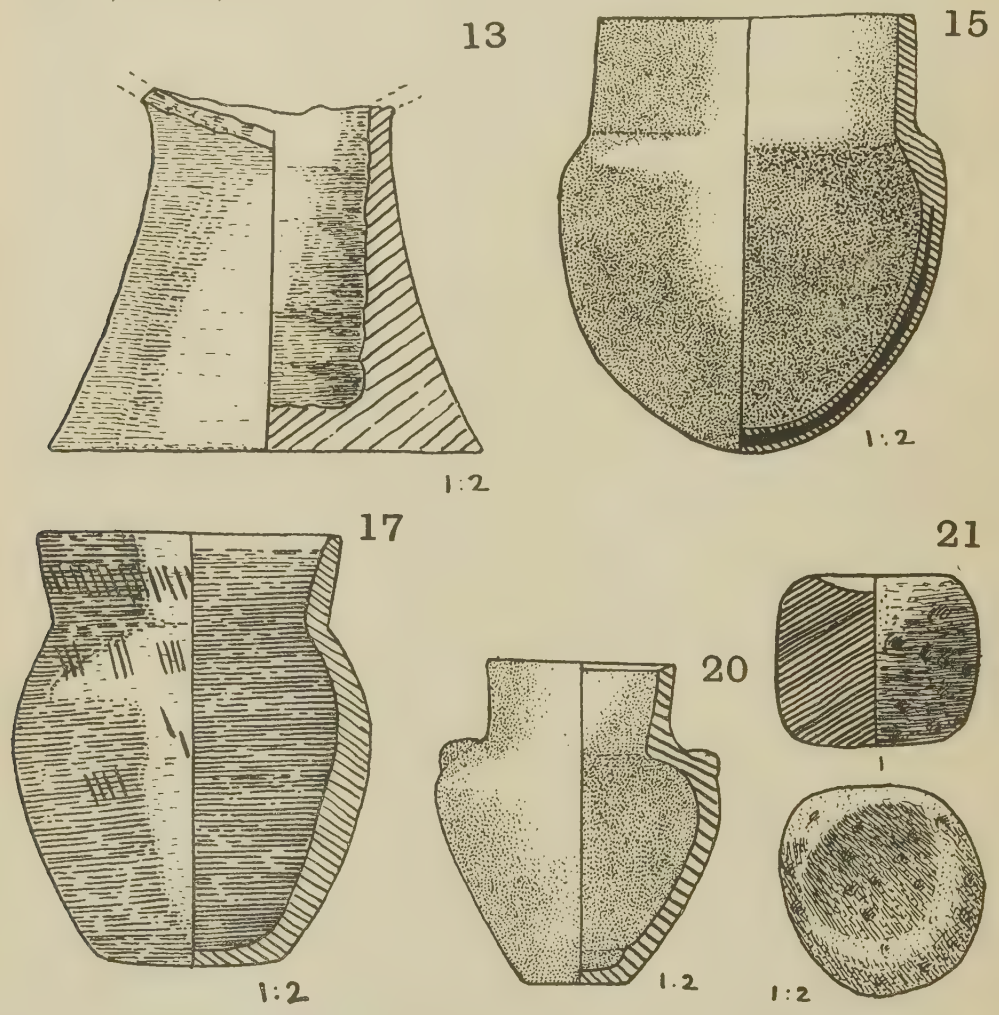


Grave 1.—Figs. 7, 12, Basalt Jars. Fig. 14, Pottery Jar.
Grave 2.—Figs. 16, 18, 19, Pottery Jars. Fig. 19*b*, Stone Palette.

hard, uniform gray-black ware, black inside, fairly thin, part smoothed outside and decorated with rows of faintly incised, short, nearly vertical strokes. When found,

it was sooty. Slightly irregular in form, *e.g.*, the outside diameter was 8·3 cm. on one axis (maximum) and 8·0 on another (minimum). Height, 11·5 cm.; diameter at spring of neck, 7·6 cm.; at widest part, 9·2 cm.; thickness of walls at middle of neck, 0·6 cm.; at a little below widest part of body, 1 cm.; at bottom, 0·4 cm.; width of bottom, *ca.* 4·0 cm.

A. 2 / R. 2. Small jar from earth half way between A. 2 and A. 3 (for position, Fig. 2; Figs. 18*a*, 19*a*, and 20). Red ware, not hard, smoothed outside, and red painted; inside of neck partly smoothed. Conventionalized ears as shown. Height, 8·6 cm.; outside diameter of mouth, 5·0 cm.; of widest part, 7·6 cm.; of bottom, 2·8 cm.; thickness of walls, *ca.* 0·6 cm.



Grave 1.—Fig. 13, Basalt Vase. Fig. 15, Pottery Vase.
Grave 2.—Figs. 17, 20, Pottery Vases. Fig. 21, Stone Palette.

A. 2 / R. 3. Small mortar or "palette" from earth between A. 2 and A. 3. A spheroidal lump of purplish conglomerate with greenish-white inclusions (Figs. 18*b*, 19*b*, and 21*a*, *b*). Slight depression in the top, nearly circular in plan, and showing polish. Other parts show pecked surface. Height, 4·6 cm.; diameter, *ca.* 5·6 cm. and 5·2 cm.; depth of depression in top, 0·5 cm.

This completes the inventory of these two graves; the objects are now in the Peabody Museum, Harvard University.

It is hardly to be questioned that these burials are of Libyan origin: the objects associated with them are neither Egyptian nor Minoan, and the locality in which they were found lies well within the Libyan sphere. The absolute date of the graves is at present a matter of conjecture, but they are certainly pre-classical, and they show no trace of that Egyptian influence which made itself felt throughout this region in New Empire times. The two stone vessels $\frac{A.1}{1}$ and $\frac{A.1}{R.1}$ are identical in substance and technique, though not in form, with some of the finest stone vessels of Old Empire Egypt; and the mortar or "palette" $\frac{A.2}{R.3}$ is of a type which has been found in Nubian graves of the Archaic Period, the Old and Middle Empires. The pottery is all hand-made and not wheel-thrown. This is a point of some, though of slight, significance; for whereas the pottery of the modern Bedawîn of the district is made by hand, all the wares of Graeco-Roman times—even the local fabrics—thus far found at Maṭrûḥ were wheel-made.

When the known factors of the case are considered,—the weathering and general aspect of the graves, the resemblance of the technique of the stone vessels to that of the stone vases and bowls of Old Empire Egypt, the analogy of the mortar to the similar ones found in Nubia, and finally the total disappearance by Graeco-Roman times of the culture to which these graves belonged,—I would tentatively assign these burials to a period between 2000 and 1500 B.C.; but until the accumulation of further evidence, it can be of no value to science to indulge too freely in such speculations.

Whatever the absolute chronological position of this material, one point is unquestionable: these burials stand not at the head of a sequence, but in an intermediate or final position in an otherwise unknown culture-scale. Much must lie behind the admirable technique of such stone vessels as those found in Grave A. 1; the bodies, although both so oriented as to have the heads east, lay on different sides and in different degrees of contraction, thus showing a careless departure from a presumably rigid primitive canon; and, finally, the ears of the small jar $\frac{A.2}{R.2}$ are purely ornamental, being conventionalized from an earlier form in which they must have been pierced for suspension.

Despite the slightness of these traces, their importance will be generally conceded. They hint at a whole primitive culture, hitherto quite unknown, and as rich, presumably, as that of Predynastic Egypt itself.

Oric Bates.

Peabody Museum,
Cambridge, Mass.,
U.S.A.

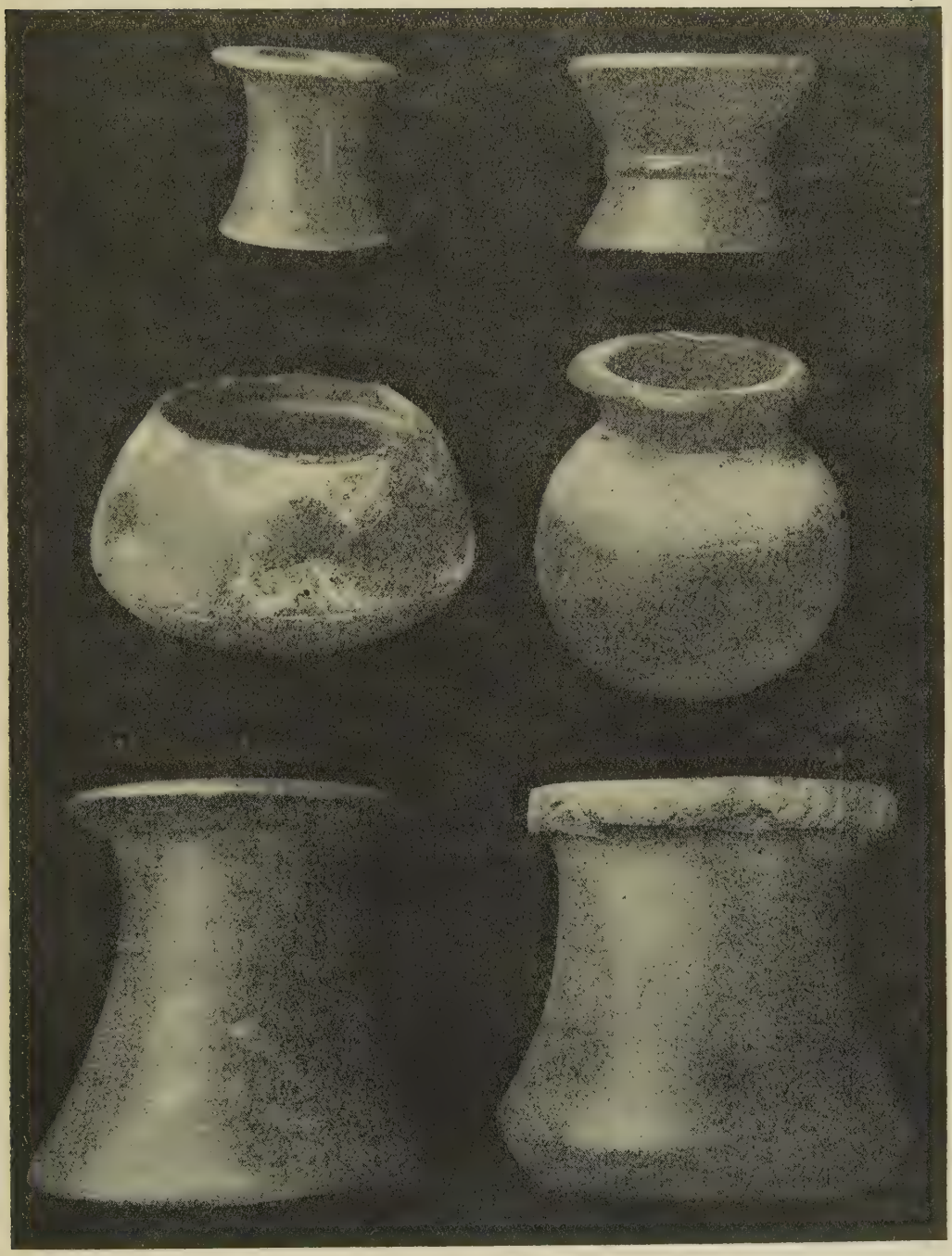
For years past, it has been a hope of archaeologists that some remains should be found belonging to the early Libyan civilisation. How important that culture was can be seen in the account of the vessels of silver and bronze, and the abundance of bronze swords, which were captured from the Libyans by the Egyptians, when they invaded Egypt under Merneptah. The discovery of even only two graves at once begins to open our eyes to other connections with Libya.

The peculiar form of basalt vase, widening to the base (Figs. 12, 13) is quite un-Egyptian; but it is almost exactly paralleled by a few vases which I have bought from time to time in Egypt. These stood outside of the Egyptian types, and had always been a puzzle; on comparing the alabaster Fig. 22, serpentine Fig. 23, and basalt Figs. 26 and 27, with Figs. 12, 13, there can be no doubt that they are all of one family. These four examples found in Egypt must then be Libyan importations. If there be an Egyptian origin for these it might lie in the wide-based vases of the VIth dynasty (see *Abydos*, II, xxi, 8, of Pepy). Knowing how that form had developed from a plain cylinder of the Ist dynasty, and how it went on to a trumpet-shaped vase in the XIIth dynasty (*Kahun*, XIII; *Diospolis*, XXIX, Y. 372), there would be nothing surprising in its widening out downward instead of upward, and so producing this Libyan type at about the XIIth dynasty. The vase 27 has had the base edge roughly cut away in a later time, and was originally like 26.

Another vase, Fig. 25, is also of basalt, and not Egyptian in type, but has much affinity to the basalt vase, Fig. 7. The hatching lines upon it seem to imitate basket work; and they connect with it the basalt bowl, Fig. 24. Such line work is akin to the line decoration of the pottery in the first prehistoric age of Egypt, which is Libyan in origin. The form of Fig. 25 is most like the globular vases of the XIIth dynasty, though they have smaller necks (see *Diospolis*, XXIX, W. 72, Y. 152, W. 32, W. 72). A wider neck was probably the earlier form, as in *D.*, XXVIII, Y. 8, W. 100, though the bases of these do not agree. We may gather then that the amount of similarity to Egyptian types gives a suggestion of a period between the VIth and XIIth dynasties, or perhaps in the XIIth dynasty, for both of these types.

These six vases (Figs. 22–27) which have been bought in Egypt without a history, and are now in University College, London, may then be set down as being probably importations from some Libyan source into Egypt. How much else may be thus discriminated by the light of further discoveries in Libya we cannot guess. No other vases of these forms are shown in the catalogues of the Cairo or Turin Museums, but probably there may be others lurking disregarded in various collections.

W. M. F. P.



Stone Vases Bought in Egypt. Scale 2 : 3.
(University College, London.)

Fig. 22, Alabaster. Fig. 23, Serpentine.
Figs. 24, 25, Basalt, with Incised Basket-Pattern.
Figs. 26, 27, Basalt; 27 cut round the Base Later.

THE EGYPTIAN MUSEUM, UNIVERSITY COLLEGE.

THE starting point of the Museum, the Library, and teaching of Egyptology in London, was the visit that Miss Amelia Edwards paid to Egypt in 1874. She then began to take that interest in the country which led her to endow Egyptology by bequest. That endowment she would have fixed at Oxford or Cambridge, had women there been given the degrees which are due to them by examination. As those Universities would not do justice, she turned to London where no disabilities rested on any class of student. She left her property for a modest endowment of teaching in London, and she began gathering a few antiquities to add to those which she had bought when in Egypt. From the excavations of the Egypt Exploration Fund various objects of no great value were granted to her "for a museum." Thus it came about that when, owing to the complications of an accident, she died unexpectedly early in 1892, there were not only her books on Egypt as the basis of a library, but also a collection which would fill three or four glass cases, as the nucleus of a teaching collection. It had been her wish that I should take up the work at University College; and on her death, and the establishment of the chair there, I accepted the position which was offered. Thus there passed again into my care many of the things which I had found, as nearly all her collection had come from my excavations.

Meanwhile, another collection had been growing. When I first went to Egypt in 1881, I began nibbling at the flow of antiquities in dealers' hands. A few pounds the first year, were followed by increasing amounts spent each year as I got experience. When excavating privately, a share of the antiquities that I found also came to my own collection. It outgrew two rooms, and was stored in boxes, when the unexpected move to University College gave space, in part of the old engineering drawing school, to set out what I had, as a loan collection. I had by that time acquired a preference in the Egyptian market for some kinds of antiquities which were saved for me by different dealers, so that scarabs, tools, stone vases, and other classes of things came readily to hand. I never had the advantage of continuously living in touch with the Cairo dealers, or having time to go ferreting out important matters in the country. These advantages which many residents had, were to some degree compensated by the visits which some of the country dealers used to pay me on their way to Cairo, where I saw the best of their stocks on the road. Good things have turned up in the most unexpected manner. An old dealer from Mellawi brought a handful of scarabs one day; among them lay the heart scarab of Akhenaten, which he only regarded as being big and having a silver plate. A Gizeh dealer appeared at my wall one day, and handed over to me the cylinder seal of Khufu's Pyramid, but he well knew the value of it. Another day the gold ring of the prefect of Egypt under Antoninus was dropped into my hands in the same way. I called in Cairo on a friend who had just come down the night before, and seen the opening of the passage of the tomb of Amenhotep I at Thebes. The next person I met was a very meek little dealer from Thebes, who had also come down the night before, and who put in my hand the gold ring of Amenhotep I. One evening when I was in Cairo, the dealers who besieged the hotel after dinner came in, and one rolled out of a bag the head of Nar-mer, the finest piece of Ist dynasty sculpture that is known. I bought in Cairo an alabaster figure of archaic Greek work, and then asked where it came

from. I got the name Nebireh, and went to search for it in the Delta. There I found Naukratis, the greatest settlement of the early Greeks in Egypt. Such are some of the most agitating moments of an archaeologist's life, when a splendid prize comes most unexpectedly into one's hands, as if it were an every-day matter. There was no public pocket behind my endeavours, to ensure that I could secure whatever was worth having. But I never bargained, or advanced my offers. One single bid was made; and it was so well known that such was my limit, that unless a dealer felt certain of getting more elsewhere he generally accepted the valuation. The better a man knew me the more certain we were of doing business.

Thus gradually there was accumulated a hoard which lay in layers piled on sheets of paper one over the other in the few cases at the College. Stores of larger objects had to lie out in ever increasing soot and dirt about the room, far too many and too tender to let cleaners work at them. Stones became hopelessly grey, pottery was smashed by brooms and scrubbing, and the accumulation seemed getting beyond my control. The moving of the Yates Library gave some space; and then the College agreed to take over the whole collection within five years. The ordering of the requisite cases was the next matter, spun out over three years owing to the smallness of the annual grant. After they were made by one of the best-known makers, and the objects partly arranged, they proved to be of such badly seasoned wood that they had to be sent away again to stop the cracks, making much more delay. Then a first-class maker was tried, who did excellent work, but who used material which warped so that all his cases had to be sent away after six months and remade. Little by little the changes were pushed through. The library was moved to a different part of the room; the piles of dusty stores were all cleaned, worked over, and arranged; the cases were put in order, labelled, and numbered throughout in sections from 1 to 999. Thus at last the whole appeared in public condition at the Exhibition held during June, 1915. The cost of the collection, which the College agreed to recoup, was mainly met by the generosity of Mr. Walter Morrison, and also largely by Mr. Robert Mond. For the first time, a teaching collection of Egyptology has been put in shape, arranged to show the historical development of the principal products, with almost all the objects dated. There is no other dated series of pottery, beads, scarabs, tools, ushabtis, or stone vases, which is of anything like the same extent. The means of systematic study of Egyptology were at last provided, and on a scale which the original foundress could never have anticipated.

To give some idea of the collection to those who are not able to use it, some general views are here shown, and the various sections are outlined. The room containing it occupies the top floor of one wing of University College, 120 feet long and 50 feet wide. About a fifth of this space is occupied by the Egyptian library, workroom and stores, and spaces too dark for exhibition. The remainder is filled with glass cases as closely as may be. The lighting varies in different parts, skylight, clerestory and side window, but is better than in most museums; accompanied by excessive heat and cold according to the season, owing to being mostly under a low glass roof. The cases were planned to suit the light in each position, so as to gain complete lighting, without reflections of skylights being so terribly in the way as they are in many museums. For this, the table cases under the skylights are sloped at 45 degrees, and thus the reflections of sky from them give a front light on the upright cases alternating with them. Lower slopes and flat cases come under the solid roof. A sort of glass gallery, 90 feet long and 5 feet wide, serves to hold the series of pottery. Shallow cases hung along the

room hold the hundreds of bead necklaces, with light falling through them. Lastly, sculptured blocks are each boxed with glass front, and glass top slip to light them, so that they can be stacked in walls, self-supporting. As the cases are thus adapted to the conditions, so the arrangement of objects is ruled by the best position for each. Sculptures, scarabs and figures, which are in relief, with an oblique lighting; coloured objects with a diffuse light. The further details would only interest a curator, who has to face similar needs.

The series of pottery runs nearly the whole length of the room, containing more than a furlong length of shelving (see along the right edge of View 1). Yet even this amount of space is much crowded, and a far larger provision would be needed for anything like a complete series. This deals only with the historic ages;

View 1. Cases of Beads and Long Case of Pottery.

and the prehistoric pottery crowds on all sides another case 15 feet long (see View 2). All the varieties of this pottery, in forms and quality, need to be known by heart when excavating, as usually the shards found are the main clue to the dating of the ground. Thirty-five years ago, when I began to dig, pottery was almost unknown and disregarded, unless it was painted or of graceful forms; in the pre-scientific days it is said that Burgon let smash many a big vase until he found that they were painted Panathenaic vases, which only needed washing to be revealed and thought invaluable. The present generation has awoke to the elementary necessity of knowing pottery well, if we are to understand what we are about, in digging. After sectioning the stratified city mound of Lachish, and collecting all the varieties of pottery, it was possible to walk—or even ride—over town sites in Palestine, and date them at once without even picking up the shards.

Before that, no one could date a whole vase, let alone a fragment. This long series of over a thousand pots, from tall amphorae down to tiny saucers, is, then, the first study for an excavator, the very alphabet of his work.

The knowledge of beads is almost as important as that of pottery, and in European archaeology it is perhaps the most important, as beads are carried by trade over all countries, and hence serve to connect together the periods of culture in different lands. There are about seven hundred strings of beads here, nearly all dated, beside one or two hundred more kept in drawers. The cases are seen in View 1, hanging down the length of the room. The strings are in some instances on the original threads, others have been transferred in exact order on to new

View 2. Case of Prehistoric Pottery.

thread; such sets show what were the designs of the threading, and how colours were arranged. In most graves the beads are found loose, and we only know that they belong together; then the patterns of the original threading serve to show how they should be restored. In getting strings of beads from dealers it is pretty plain generally how far they are clean lots found together, or if they have been mixed with beads of other periods. Often a string will be of all periods, only fit for the tourist, and worthless for a collection.

At the end of View 1 is one of the cases of slate palettes in animal form. These are of a great variety, in eight wall cases here. They belong to all parts of the predynastic civilisation, but come to an abrupt end at the beginning of the Ist dynasty, when they were last used by the poorer class, and not by the invading rulers.

The cases of palaeolithic flints in View 3 are the material from which the illustrations were taken for the articles on the Stone Age in Egypt, in the last two numbers of ANCIENT EGYPT. They all belong to ages before the continuous civilisation which we find in the predynastic times. The series of the predynastic flints is much larger than the palaeolithic, but being of lesser size they will not show clearly in a general view.

The early dynastic vases and small objects, in View 4, date from the close of Dynasty 0 to the close of Dynasty II. The head on the upper shelf is a sculptor's

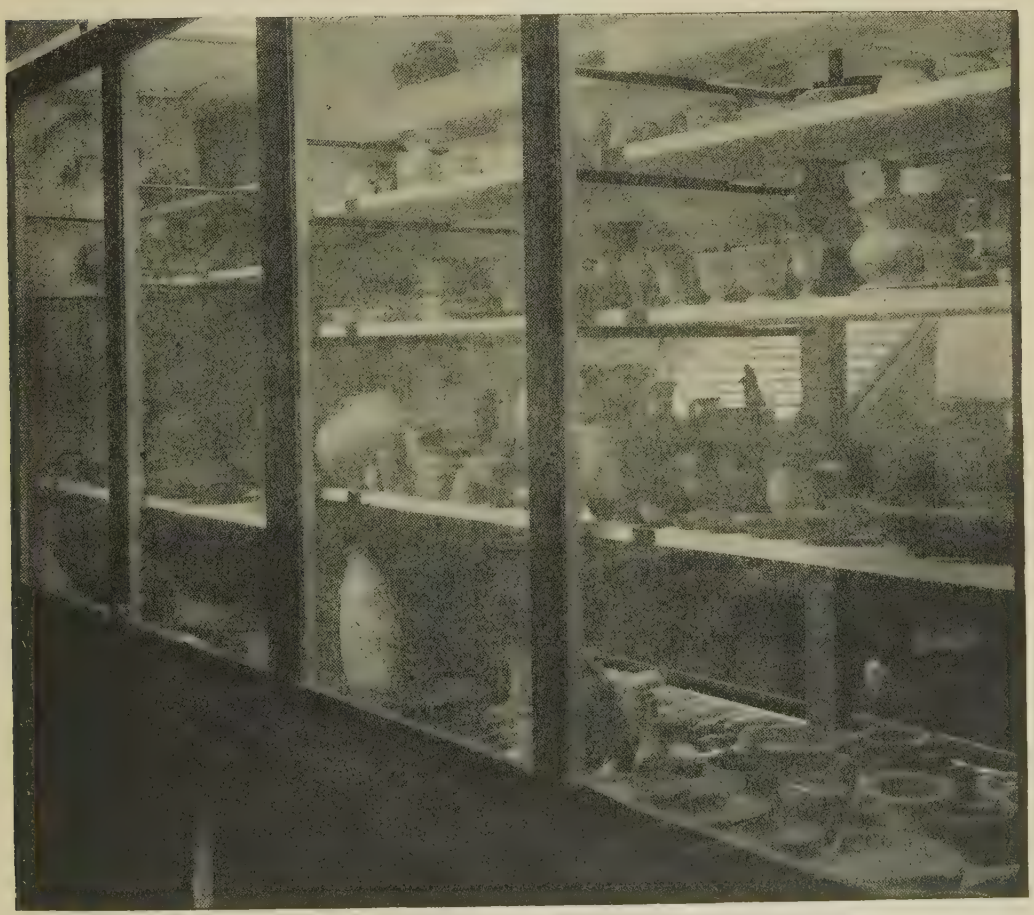
VIEW 4. CASES OF VASES OF IST AND IIND DYNASTY.

study, which so closely resembles the profile of Nar-mer on his slate palette that it is almost certainly that king himself.

The pyramid period is represented by the cases of stone vases; they are nearly all of hard rocks, as granite, diorite, quartz or metamorphic. Further on is the alabaster, which became more usual in the Vth and VIth dynasties, and almost the only material in the Xth–XIVth dynasties. In the XVIIIth dynasty to Roman times, only soft alabaster and steatite were worked, and mostly in small sizes, as seen in the next case. (View 5.) Metal vases of all periods are in a further case.

The scarabs and small objects with royal and personal names number over 2000, and there are about 1200 with designs upon them. These are too small to

View 3. Palaeolithic Flints.



View 5. Cases of Metal and Alabaster Vases.

be shown in a general view, but are the more important part of the collection, as illustrating the variety of style and work throughout Egyptian history. Two hundred and seventy royal personages are represented and three hundred private persons, forming the most continuous series that there is. This is about equal to all the national collections of foreign countries put together. The designs have also much interest. The geometrical patterns are often most exquisitely outlined and cut. The figures of the gods include the rare foreign deities Sutekh, Astarte, Qedesh, and the Vedic wind-god Vatu, which is another link of the Aryan deities with the Mediterranean world. The case of button seals will some day be the key to one of the darkest ages of Egypt, the fall of the Old Kingdom. These seals

View 6. Figures of the Middle and Old Kingdoms.

were all made by foreigners, and the connections of them, so far, lie with Mesopotamia. Another case contains about half of the early cylinders that are known, and casts of most of the rest. This series shows the earliest group of inscriptions, older than any of the other monuments.

The figures of gods and persons are arranged according to period. Here the figures of the XIIth dynasty and earlier times are shown in View 6; six other cases contain those from the XVIIIth dynasty to Roman times. The classification by age greatly helps in grasping the character of each stage of art; it is ascertained from the names on the personal figures, the dedicators' names on the figures of gods, the localities, and the characteristics of work, so that very few pieces have any uncertainty as to their historical position.

The larger heads of various periods are placed in one line for comparison (View 7). The earliest, beginning at the right, is one of the heads made separately for burial in the tombs of the IVth dynasty. Next is a head of Amenemhat III of the XIIth dynasty, which was published in ANCIENT EGYPT, 1914, p. 48. Then a beautiful pair of busts of the XVIIIth dynasty; this and the previous head were of the Edwards' Collection. Other heads of later times follow. The second case contains the plaster modelled heads of Graeco-Roman age, which are of far better work than the stone sculpture of the same time.

On the small shelves below are the lesser figures, which are seen better thus than in an upright case. The group at the right is a curious class of glazed figures, made under foreign influences, probably about 800 B.C. In some of them Assyrian design is obvious. Beyond are bronze figures. In the further case (unopened) are the seals and engraved stones.

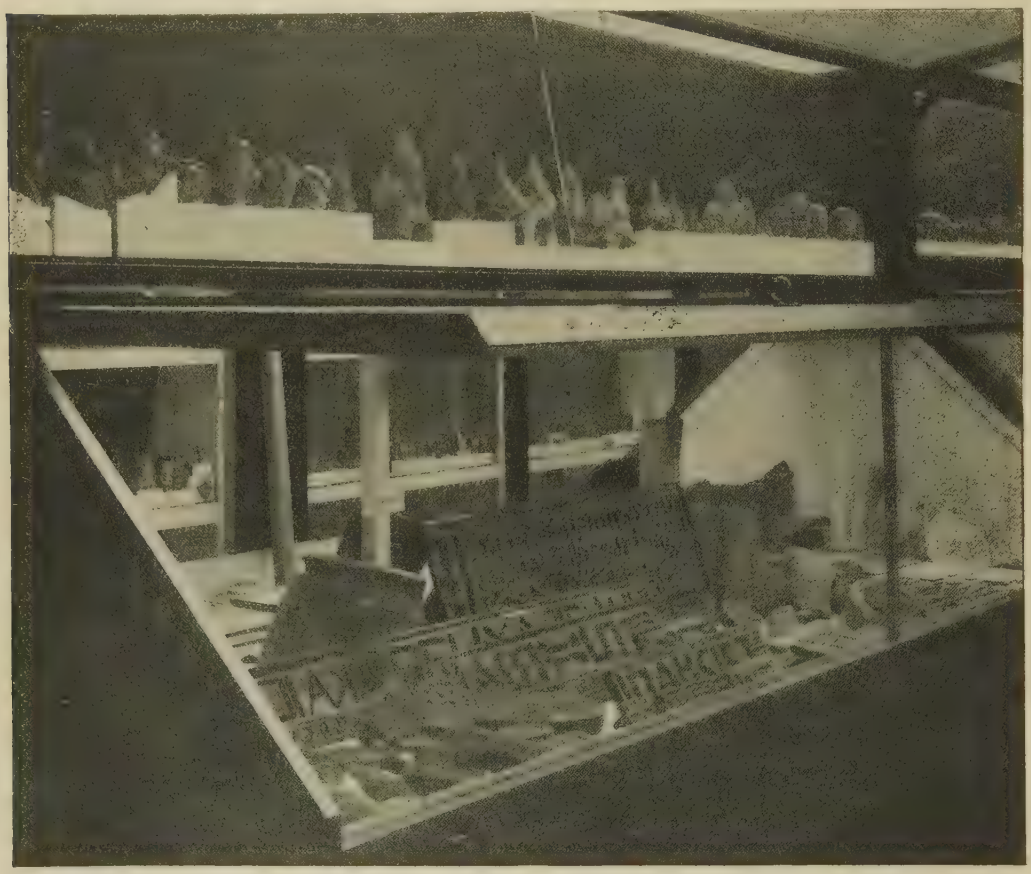
VIEW 7. HEADS FROM ROMAN TO EARLY PERIOD.

The long series of heads of foreigners, modelled in terra-cotta, which were found at Memphis, are all here. A part of them are seen at the top of View 8. The original purpose of them is quite unknown, as no bodies according with such heads have been found, yet they are all broken off from some support. The age of them is indicated by the prominence of the Persian army,—king, officer, and Scythian cavalry, while only one of the latest appears to be a Macedonian. Probably they range through the fifth and fourth centuries B.C. Whenever a collective study of the racial types of the ancient world shall be made, it will be possible to identify the majority of these heads, which remain still unplaced.

In the case below are the stamps of various periods. The largest is Arabic, most of them are Roman, but small stamps go back to 1000 or 1500 B.C. They were used for marking property; the larger for piles of flour or grain to prevent pilfering, or for sealing mud seals placed over the wooden locks of doors, as is now done. The smaller were used for sealing wine jars and lesser objects. Beyond them is a part of the case of figures of the XXVIth dynasty.

The long series of amulets we need not notice here, as they have been all published in photograph. There are over two thousand amulets, comprising nearly the whole of the two hundred and seventy different kinds that are known; this is by far the most complete series that has been collected.

The ushabti figures are the most familiar of all Egyptian products, being brought over by the thousand every year in the hands of tourists. The series here has been weeded of duplicates and arranged to show the varieties of style in each period. In View 9 the earliest are on the left hand at the top. A few figures are known, of mummy form, dating from the XIIth dynasty; but none of them have the Chapter of the Book of the Dead with reference to the



View 8. Heads of Foreigners. Engraved Stamps.

ushabti, or agricultural serf, who was to do the farming in the Other World. Such figures represent the deceased person, and sometimes have an inscription of *nesut da hetep* for him. The earliest of the wooden figures of the New Kingdom, the very rude ones of the XVIIth dynasty, also have such an inscription. It is not till the XVIIIth dynasty that the serf-figures became the usual accompaniment of a burial. The finest here is the largest one for Nehi, viceroy of the Sudan under Tehutmes III, which is beautifully engraved. From that point the ushabti declines until the XXIIIrd dynasty, when it was degraded to a little bit of mud with traces of a head. In the XXVth dynasty it was revived in different style, and thence degraded down to the XXXth, when it disappeared entirely. It is remarkable how very different qualities of ushabtis are

View 9. Ushabtis of XVIIIth–XXIst Dynasties.

View 1c. Measures of Capacity, and Weights.

placed together in tombs. This suggests that they were the separate gifts of various members of the household, one fine one being from the eldest son, half

a dozen common ones from the family, and perhaps one or two dozen very rough ones from the labourers. This will explain how, even in a royal burial such as that of Sety I, there were ushabtis of every kind and degree of work. They were the substitute for the much earlier sacrifice of the royal household at the funeral.

Three cases contain the series of glass weights. Stamped glass had been used for amulets in the second century, and later for tokens and weights. Soon after the Arab conquest of Egypt this system became very general, and glass weights show stamps of makers and rulers over some five centuries.

The Egyptian weights and measures occupy several cases, there being here by far the greater part of all the known weights, of all sizes from seven grains up to two hundred-weight. The cubits and measures of length are rarely met with, and the series of measures of capacity has never been collected before. They are seen in View 10 arranged with the Syrian standard on the upper shelf, the Egyptian *hennu* on the second, and the Hebrew *log* below that. The rows of weights are seen in the case beyond.

View 11. Cases of Technical Specimens.

The general View 11 will show the extent of this more technical side of the collection. Near by are the Coptic cases, and the stone sculptures in glazed boxes stacked together. Beyond are the weights, moulds, tools, minerals, toys, etc. The sculptures are seen in View 12; those of the XVIIIth–XXth dynasty at the back, and nearer at the right those of the Old Kingdom. Each stone is boxed, with not only a glass front for seeing it, but also a slip of glass along the top to give direct edge-lighting on the relief. In ordinary glazing, when all the oblique lighting has to pass through the front, nearly all the light is reflected away, and in any case the edges are dark. By a separate edge-lighting the whole face is well shown. Such a series of examples of sculpture of all periods, from Ist dynasty to Coptic, is required to train the eye in varieties and details of style. For this purpose they should all be put close together, so that a large mass of one period of relief can be seen at once, and a general impression of style produced on the mind, in a way which scattered examples cannot do. Other sculpture, which is not flat for boxing in this way, is put in small cases along the side of the gangway up this part of the room.

The great profusion of the glazed trinkets, pendants, and inlays for wall decoration, were made in pottery moulds, of which there are many hundreds of varieties, placed here along with the objects which were made from them. This manufacture arose at Tell Amarna in the XVIIIth dynasty, and was thence continued on a lesser scale down to Greek times. The art of Tell Amarna is further shown by the stone sculpture, and inlayed hieroglyphs cut in stone; also the great variety of coloured glazes for beads and pendants, inlay in stone walls, and dishes for table service. Other cases contain a series of glazed objects from the Ist dynasty to Roman times, in historical order. These serve to teach the varieties of colour and treatment of glaze throughout their history. Other cases

View 12. Sculptured Stones in Glazed Boxes.

contain the series of the manufacture of glass, showing each stage from raw material and crucibles to finished vases, as made in the XVIIIth dynasty. There is also a quantity of glass mosaic and other glass-work of the Roman age.

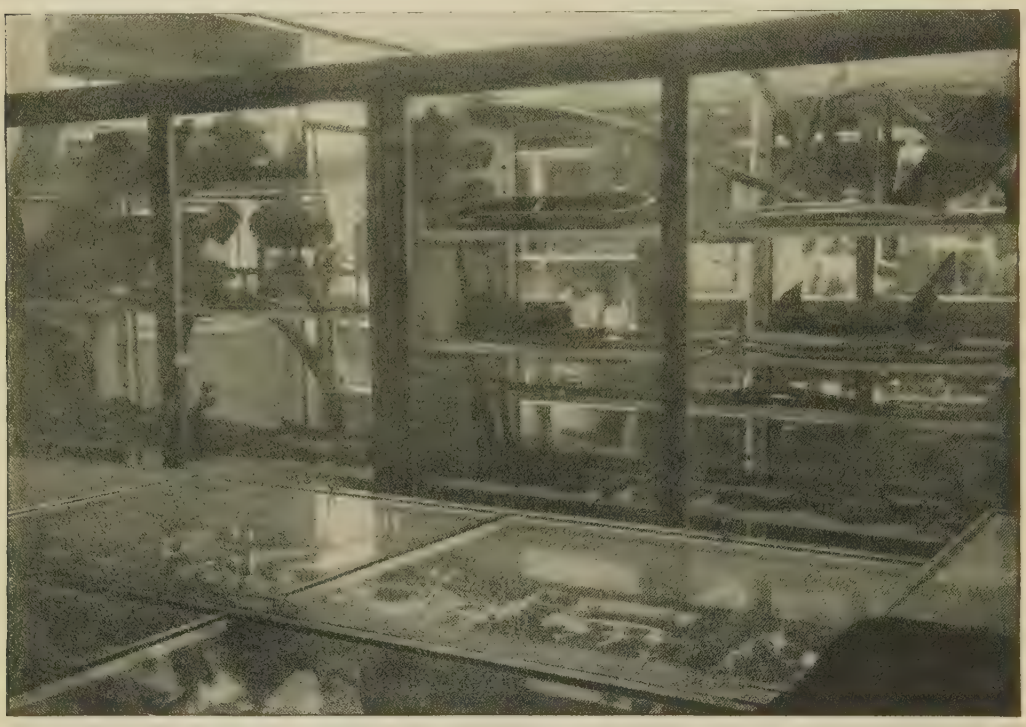
Beyond this are cases with examples of mummification, pieces of coffins, cartonnage, and the various funeral offerings, linen inscribed with scenes from the Book of the Dead, wooden labels for mummies, pottery houses for the soul, and other funeral furniture.

The next cases contain examples of spinning and weaving of all periods, spindles and whorls and pieces of looms. Beyond are mirrors, some with figure handles, others of lotus leaf form, and one engraved. The later mirrors of Roman time were of glass coated with thin pewter on the back, like a silvered looking-glass; all such are of thin blown glass, convex, and diminishing, like mirrors in

fashion in the eighteenth century. Adjoining are the varieties of kohl pots, spoons, tweezers, hair-pins, and hair curlers. In the next cases are metal necklets, bracelets and earrings, and a series of headrests from the IIIrd to the XVIIIth dynasty, in historical order. Other cases contain the minerals and the shells found in Egypt.

The tools are an important section for their variety, and for their being dated in many instances by inscriptions, or by groups in which they were found. Thus a continuous development can be traced in the forms of the axes, adzes chisels, knives, etc. The cases of wooden tools are shown in View 13, containing brushes, locks, mallets, winnowing fans, hoes, throw sticks, and many other forms.

At the end of the room are cases of stone and plaster work, and architectural pieces; these show the methods of cutting stone, the large use of plaster for casting models for students, and the trial pieces of students' carving.



View 13. Cases of Wooden Tools.

Beside the exhibited material there is the collection of papyri of the XIIth dynasty from Kahun, a large series of limestone ostraka of the XIXth dynasty, and a great quantity of pottery ostraka with demotic, Greek, and Coptic documents.

When I first went to Egypt, thirty-five years ago, nothing was known of the technical or industrial history of the country. Whether beads were made in early times as well as late, what were the modes and dates of glass working, when various forms of tools were used, what was the method of stone working,—all was a blank. So little was known of pottery that Dr. Birch asked me to pack a box of fragments from each great site I visited, because from the known history of the great cities it might be possible to guess the age, and so get a clue to dating the pottery. Now every form, historic and prehistoric, is pretty closely dated, and we know far more of the history of Egyptian products than we do of those of Greece or Italy.

W. M. Flinders Petrie.

PERIODICALS.

Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXVI, 1914. Liv. 3–4.

RUSCH, RICHARD.—*Hethitische Zahlzeichen.* This is a disheartening style of paper, giving many resemblances of notation of numbers, without discrimination of what is probable, and without any historical grounds of connection. It seems very unlikely that the Greek use of Δ for ten can have arisen from the circle so used in Babylon, the obvious origin is the word Δεκα, just as Π is used for five derived from Πεντε. It is also too much to claim the Latin use of ↀ for 1,000, from the circle with a bar through it, when the obvious source is the initial of *mille*. Again X being ten in Roman notation, the use of half of it, V, for five is obvious, without trying to connect it with two sides of a square sign for ten in Babylonia. Such resemblances show that a strict requirement of descent is really necessary before we can come to any safe conclusions about the history of notation.

MASPERO, G.—*Les Monuments Égyptiens du Musée de Marseille.* This paper gives long detailed descriptions (without any illustration) of the coffins of Khensumes, Thentamen, Nubemusekht, Onkh-khensu, and Samertui. Though required in any comparative study of the details of coffins, it does not seem that the inscriptions contain any unusual features.

LEGRAIN, G.—*Recherches sur la famille dont fit partie Montouemhat.* II^e^ partie. *Les enfants de Khaemhor*, Chap. IV^e^, *Branche Petamon.* This is a continuation of the paper already summarised in this Journal, pp. 24–26. It should be said as a warning that, in these papers, the genealogical tables are all reversed from the ordinary usage, and have the latest generation at the top. This paper deals with the family of Tabathăt, who married Besenmut. The documents quoted are :—

LXVII. Coffin of Tabathăt.
LXVIII. Bottom of coffin of Tabathăt.
LXIX. Wooden stele of Tabathăt.
LXX. Wooden board of Tabathăt.
LXXI. Ushabti box of Babau, mother of Tabathăt.
LXXII. Coffin of Peda-amen, father of Tabathăt.
LXXIII. Second coffin of the same.
LXXIV. Stele of Peda-amen.
LXXV. Coffin of Babat.

A large genealogical table of the Mentuemhat and Besenmut family, extends from the middle of the reign of Psamtek I back to about the beginning of the XXIInd dynasty.

An annex on the Hammamat inscriptions quotes one of Nesiptah II, and one of Mentuemhat son of Nesiptah I.

MASPERO, G.—*Le Protocol royal des Thinites sur la Pierre de Palerme.* For the first time we are given a quotation on official authority from the early annals, which have been so strangely concealed for years past in the Cairo Museum, to the great confusion of students. This gives the full heading of King Khent, or Zer, who is stated to be Athet, the third king of the Ist dynasty. The name is written in a cartouche, which shows that such belongs to the beginning of the kingdom. The royal mother's name follows, *Khenfet-* with the figure of a priestess determinative, *Hapi,* with the usual female figure determinative. This word *Khenfet* seems, by the figure after it, to be a title. *Khenf* is a bread offering, clearly connected with *khenp* to offer, or present, and *khenp* an animal offered in sacrifice. It seems, then, to mean the "Offering priestess, Hapi." Sir Gaston Maspero is inclined to make one name of it, Khenfet-hapi, regardless of the determinative of the priestess. This passage is quoted as explaining the portion of the protocol of Neteren on the Palermo stone, which evidently shows the beginning of his cartouche, hitherto misinterpreted as part of his mother's name. Whenever the world is at last allowed the use of these most important documents, so long concealed, there will be many enquiries to be followed out from them.

SOTTAS, H.—*Étude sur la stèle C* 14 *du Louvre.* This is the well-known stele of Mertisen describing the variety of artistic knowledge. The paper is a comparison of the translation by M. Madsen (*Sphinx*, 1909, 242) and Sir Gaston Maspero (*T.S.B.A.*, 1877, 555), with reference also to those of Erman and Brugsch. No new result of importance is reached.

SPIEGELBERG, W.—*Der Koenigseid des demotischen papyrus Berlin* 3080. This is a contract of a sale of land under Euergetes II. The interest of it is in the formula of the oath by Pharaoh which concludes it, and a reference to the inundation of year 37 to 38. This is so stated because the full height of the Nile then was at the junction of the two years.

SPIEGELBERG, W.—*Ein Denkstein aus Leontopolis.* This is a tablet with a king offering to a lion god and a god of human form with a lion's head. The brief inscription shows that this is the lion-god Mau-hes of Tell Mokdam. The stele is at Hildesheim.

MERCER, S. A. B.—*The Gorringe Collection of Egyptian Antiquities.* The objects collected by the late Commander Gorringe, when he moved the obelisk from Alexandria to New York, have been lost to sight, but are now found and here described. The main piece is a fine stele of about the time of Sety I, showing the royal scribe, keeper of the harim, Ptahmes son of Any, offering to Osiris. Below the scene are seventeen lines of *nesut da hetep* and speech of the deceased. The stele was published from a copy in *Recueil* 1905, p. 29; but not quite correctly, as it was then lost to sight. There are, besides, two limestone sphinxes, a statue of Rameses II, many fine bronzes, about fifty amulets, some scarabs, terra-cottas, etc. It is intended to publish photographs before long, in this Journal.

SCHEIL, V.—*Nouvelles notes d'epigraphie et d'archéologie Assyriennes.* A bronze tray on wheels, 22 inches square, $5\frac{1}{2}$ inches deep, was found at Toprak-Kaleh. The four wheels are 6 inches across, and there is a handle at one end of the tray. It appears to be a piece of temple furniture, analogous to the bases of brass upon four wheels for carrying the lavers in Solomon's temple. Those, however, were three or four times the size of this Assyrian example. It is strangely termed a chariot, by Père Scheil.

The three "kings of the East," whose names first appear in late Christian apocryphal writings, are here shown to occur in a Jewish magical formula as Qaspar, Kelia'mar, Bleithazar. Kleia'mar is an inversion of Melchior, obviously formed from Melek; Bleithazar is a lisping form of Belshazar; and Qaspar, it is suggested, is an inversion of Rabshakeh, such a play on words is even directed in the magic formula, "whisper in the reversed order."

GARDINER, ALAN H.—*Notes on the Story of Sinuhe.* This article is mainly occupied with critical discussion of details of the text, in view of fresh material. It concludes with a valuable estimate of the general character of the composition. The story of Sinuhe (or Sanehat) was one of the most popular in the New Kingdom, and allusions to its phrases are even found in monumental inscriptions. In the style of it "it is a classic because it displays with inimitable directness the mixed naiveté and subtilty of the old Egyptian character, its directness of vision, its pomposity, its reverence, and its humour." These characteristics are just what belong to the modern Egyptian. The authenticity of the description of the travels in Syria is much doubted, mainly on the ground that the only place named is Byblos, which was well known and frequented by Egyptians. This seems hypercritical, for Sanehat would be most likely to go where he could hear about Egypt, without being in the least under the Egyptians. The absence of the names of less known places is of no more discredit than if an Englishman said he wandered through France until he reached Bordeaux. The date of writing, it is agreed, is early in the XIIth dynasty, as a MS. of the close of that dynasty is "some distance removed from the archetype." The form of the tale is so similar to the autobiographies in tombs, that the nucleus of it may well be derived from such a tomb inscription.

LACAU, PIERRE.—*Textes Religieux.* Texts from four sarcophagi of Bersheh, arranged in parallel lines.

RINGELMANN, MAX.—*Essai sur l'Histoire du Génie Rural en Phénicie et dans les colonies Phéniciennes.* Chap. I. *Mobilier.* Rough illustrations are given of various pottery forms, without the least hint of historical discrimination or dating. Periods from 800 B.C. to Roman are all mixed together; and types which are usual in Egypt and elsewhere, under Graeco-Roman influence, are quoted without discrimination as Punic. When archaeology is thus ignored, only confusion can result.

Vol. XXXVII, Liv. 1–2, 1915.

MASPERO, G.—*Les Monuments Égyptiens du Musée de Marseille.* This further instalment of long detailed descriptions deals with wooden sarcophagi of (60) Imhetep son of Onkh-hetemt born of Tenteri; (61) fragments with forged inscriptions; (62) panel with two mythological serpents, Nehub (perhaps = Nehebka) and Qesr (or the lance); (63) lid of a case of Khet son of Pemeraun; (64) coffin of Hernezatf born of Ta-nub-ne-hent. Stone sarcophagi are described of (66) Onkh-hapi son of Tada-asar or Thent-asar, the variation of name is curious; (67) of Penast son of Smataui and Tasmataui; reused later for Peda-asar son of Peda-her-pa-khred and Pesed; the long inscriptions of this are fully copied and dissected with translations.

SPIEGELBERG, W. *Koptische Miscellen.* On some small grammatical details.

Boussac, P. Hippolyte.—*Commentaire sur un passage d'Hérodote.* This deals with the mythological answer given to the geographical questions of Herodotos on the source of the Nile. The most curious point is that the idea of the Nile arising at the First Cataract was still held in Cairo at the beginning of the nineteenth century, when the Diwan in Cairo wrote: "From the place called Shellal where the Nile takes its rise, to the mouths in the two seas by the towns of Rosetta and Damietta."

Boussac, P. Hippolyte.—*Le Culte de la Déesse Bast dans l'Italie.* The extent of the worship of Isis in Italy was considerable; not only are there many temples of hers at Rome, but also at Pozzuoli, Tivoli, Tusculum, Nemi, Ostia, Porte d'Anzio, and Pompeii. Along side of this Isis worship appear also figures of Bast, suggesting a strong Bubastite influence among the Alexandrian settlers. At Rome, Ostia and Nemi, Isis and Bast are associated, and at Scarbancia in Upper Pannonia there is a joint dedication to them. An inscription at Nemi gives an inventory of the jewellery of the divine figures. Isis had "a diadem, bracelets and collars with jewels; an 'alempsiac' crown of twenty-one topaz and twenty-four carbuncles, a collar of beryls, a girdle plated with gold, two robes, two tunics, two mantles." Bast had "a robe of silk, purple and turquoise green, a shirt of purple linen with two girdles, one gilt, two robes, two mantles, a tunic and a white dress." At Ostia an altar is dedicated "to Isis, to Bubastis. A silver statue of Venus, of a pound and a half in weight, a silver crown of three ounces three scruples, an alempsiac crown of five ounces and eight scruples, Caltilia Diodora Bubastiaca has given it by bequest." At Pompeii is a scene of a priest reciting from a papyrus, in front of a stele surmounted by a cat.

Clédat, Jean.—*Notes sur l'isthme de Suez.* From Pelusium comes (1) a fragment of a red sandstone shrine; also (2) a black granite weight of Nekht-nebef, of thirty-two kilogrammes. This is exactly the Roman centumpondium, though by its date it is probably the earlier form of the same standard, the Aeginetan, fifty minae. (3) A fragment of a marble inscription in Latin, names IVLIVS L . . . . perhaps the Prefect Julius Lupus in A.D. 71. (4) At Kasr et-Tineh is a large ruin of an Arab palace of the twelfth or thirteenth century, like the tomb of Kalaun at Cairo. Near it is an Arab cemetery, with the graves under water level. This shows that the north coast of the Delta continued to sink more, for centuries after the great catastrophe of the submersion of the northern Delta. Two other cemeteries are Roman and Egypto-Roman, and a third is said to be of Greek age, but the inscriptions seem more like those of the first or second century A.D. One is for Ammonianos Kelenos, another of Theonilla, a third for Athanasioudis.

From Mahemdiah comes a weight of black granite, apparently two Phoenician minae, inscribed **TI** in Phoenician.

From El-Arish a Greek inscription of Alexander Severus.

From Qantarah comes a small portable sun-dial, measuring the height of the sun, and therefore independent of direction. In order to compensate for the seasonal changes, there is a column for every month, with the hours marked by dots in the space. By Pharmuthi being the midsummer month, this is dated to the fourth century B.C. M. Clédat does not explain it, and states that he knows nothing like it. A similar dial was in the Hoffmann sale in 1894, lot 456; but with Pauni for midsummer, and therefore about 100 B.C. Another, without names of the months, is in University College collection.

From Wady el-Reheiba (Rehoboth) several inscriptions have been brought, dating from the Christian period, with the names of Ioannes, Stephanos, Sergios, Maria and Steph . . los, perhaps Stephthelos.

CLÉDAT, JEAN.—*Les Inscriptions de Saint Siméon.* A collection of all the Coptic inscriptions in the convent, revising and supplementing the copies published by De Morgan. Unfortunately scarcely one of them is complete, and most are badly effaced.

KEES, HERMANN.—*Eine Liste Memphitischer Götter im Tempel von Abydos.* The gods named are as follow :—(1) Ptah ; (2) Nun ; (3) Khent-tenent, or thenent, otherwise known as Ptah-tenen, or Ptah-khent-tenen (Ramesseum). Tenen was the popular name of Ptah in the XIXth dynasty ; and it occurs in the Old Kingdom as a priest of Khent-thennant. Neit is also called "Lady of Thenent." It appears to have been a quarter of Memphis. (4) Zed-sheps, "the noble *zed* pillar." (The worship of the *zed* pillar is shown by a *sem*-priest of the *zed*, named on a *menat* of Necho in University College.) (5) Em-khent-ur, to whom there was a priesthood in the Vth dynasty (Ptahshepses and Sabu tombs). (6) Kherbakef, "under his olive," also named as a synonym of Ptah at the Ramesseum. (7) Em-khent-defent, of whom there is a priesthood. (8) Khent-aăutef, also named in a priesthood. (9) Ptah in all his dwellings in heaven and earth. (10) Ptah in all his seats of Upper and Lower Egypt. (11) Ptah in all his halls and palaces. (12) Ptah of foreigners in all his places. (13) Res-uza, also named in Pyramid Texts. (14) Her-khen, the first god here named without the determinative of the Ptah figure. (15) Nezem-onkh. (16) Aoh-remt. (17) Hetep-det. (18) Kherbăkef, again. (19) Res-uza, again. (20) Un-amakhef. (21) Shu. (22) Defnet. (23) Nepre and Hesă, the Corn-god and Nile-god. (24) Hetep-băkef. (25) Repeats Khent-aăutef. (26) Herheruazef, "Horus on his papyrus plant." (27) Herremen and Sesmu-am-nudef, who appear later apart in 43–44. (28) Sebek. (29) Zedui, the two *zed* pillars. (30) Zenbu of the south, Zenbu of the north. (31) Isis. (32) Nebhat. (33) The god of the gate of *per-henu*. (34) Hapi and Mestha. (35) Horus. (36) Duamutef and Khebsenuf. (37) Uashes. (38) Hemaget. (39) Merymutef. (40) Her-tep-senuf, or Her-zaza-senuf. (41) Her-her-qenbet-res. (42) Khnem-khent-anbuef. (43) Her-her-remenef. (44) Sesmu-am-nudef. (45) Anpu-am-ut. (46) Isis. (47) Nebhat. (48) Seshăt. (49) Sekhmet. (50) Neferatmu. (51) Sekhmet-tep-aner. The reason for the repetition of some gods is that they were worshipped in different districts of Memphis, and they are here grouped according to the districts which are named over them. The names of these localities such as : "In the harbour of the east," "The enclosures of the harbour," "By the gate," "Suburb of the south" and "of the north," "Behind the south wall," "Behind the north wall," show how much may yet be recovered of the topography of Memphis. This will be discussed in this Journal before long.

GRENFELL, ALICE.—*The Ka on Scarabs.* The great mass of brief inscriptions on scarabs are usually passed by as "wish scarabs," and ignored. This shows that as yet we are very ignorant of the ideas and expressions of the popular language of Egypt, however much we may know of the State texts. The extreme brevity and elisions usual in such a small space make it almost impossible to begin systematic readings ; and the allusions and ideas of mystical nature are a speech apart from our usual knowledge. However, to explain a mystic by a mystic, may be our best way of approaching the subject, though some will doubtless quote *Ignotum per*

ignotius. The readings given by Mrs. Grenfell may be stated here, and compared with what is generally accepted.

The signs *nefer, onkh, hes* and *s* are stated to be symbols of the deceased. The evidences are that the deceased are called *neferu sheps*, "the noble or ancestral excellencies," and the *onkhu shepsu*, "the ancestral living ones." For the rendering of *hes* no authority is given, but it is already recognised that the *hesy* or "praised one" means the dead. The frequent epithet of *ka nefer uah*, precedes the use of *uahem onkh*, "living again" and *măot kheru* or "justified." It seems therefore to be an honorific epithet of good wish for the deceased, and as such we should render it "may the good *ka* be established" or "multiplied." Mrs. Grenfell renders the *ka nefer* as "the *ka* of the deceased"; and *ka nefer uah* as a contraction of *uah khetu* "offerings," "may the *ka* of the deceased have offerings." This seems a large expansion of *uah*, and one which does not accord with the common name *Uah-ka* which is never expanded; this name, meaning "the *ka* is multiplied," would be a natural name for a child, in view of the *ka* being the ancestral spirit of the family. It seems, then, that the wish for a person "may the good *ka* be established," or "multiplied" is the more likely rendering. That the gods had *kas* is well known; besides the examples quoted, there is a stele of adoration to the *ka* of Osiris (Univ. Coll.).

Some "reliquary scarabs" are copied, showing the sacred head of Osiris guarded by the gods, as No. 40. Others given with these are, however, the emblem of Neferatmu, as Nos. 38, 39, and probably 35.

The falcon, with uraeus in front and plural strokes behind, is stated to be a sign for the glorified deceased. The evidence only goes to show that the royal soul was a falcon, while subjects were human-headed birds, even down to the first century A.D. (Zodiac tomb, Athribis). The plural is no doubt to give the reading Heru. Rarely, there is the serpent in front (like that before the *upuat*-jackal), the serpent who leads the way in the desert, implying that the Heru has gone, or is going, to Amenti. There does not seem to be any instance quoted which might not as well be translated as referring to the god Horus. For example (No. 59) *hes neb* (sphinx) *onkh heru*, is rendered "may Amen (sphinx) revivify deceased among the glorified"; but a more usual reading would be "Praise to the king, live the Horus," like the opening *onkh her* of royal titles. In other cases the falcon is used simply as an equivalent of *neter*. The Aăkhu bird on scarabs is rendered as "the glorified one," as would be generally agreed. The translations of "the glorified follower of Amen," or of Uazet, are very probable. The Bennu is rendered as referring to the deceased, in the examples 69, 70, *Bennu em aăkhu*; but these may probably refer to the Bennu as psychopomp, the idea being "may the Bennu Soul of Ra be among the deceased ones to lead them to the Duat."

The term *khet* or *khet neb*, frequently found, is usually taken to refer to the etcetera, *khet neb nefer*, which ends the list of funeral offerings, "and all good things." On the other hand, Mrs. Grenfell gives a good instance of its referring to spiritual benefits, in the term "making known to the Bennu *khet duat*," "the things of the Underworld." Hence it is taken to refer to the magic ceremonies. It seems really impossible to define, except occasionally by the context, whether *khet* refers to material offerings, or ceremonies, or the affairs of the future life. It is about as wide a term as our word *thing*, as in "Divine things," "good things to eat," "pick up your things," or "saying bad things" of a person.

The Rennut scarabs are noticed, as wishes that the goddess of food should supply the deceased with "vivers."

Thus, although many of the proposed readings help to clear the sense of the scarabs, there are difficulties in most of them. These difficulties may be solved by a wider usage of terms than we yet allow, and it is very unlikely that we have already reached the varied senses of words. Some good reason for each class of readings needs to be given, and some example which cannot be read in any other way, if we are to take an explanation as established.

MASPERO, JEAN.—*Sur quelques inscriptions grecques provenant du grand temple de Dendérah.*—The lamented scholar, whose loss by a *kultur* bullet we deplore, has left here a study of various inscriptions lately exposed by clearances at Dendereh. (1) A dedication by Hadrian on the 13th of Tybi. This date cannot refer to Hadrian's birthday, as that fell on 26th Mekhir, and at his visits to Egypt the anniversary was on 7th and 10th of Phamenoth; but it was probably erected in one of his visits in A.D. 122 or 131. (2) A base of a statue of Hadrian. (3) Base of a statue dedicated by the city to Tullius Ptolemaios, a strategos and administrator of the Museum. (4) Base of a statue of Carinos. (5) Base of a statue of Aurelius Apollonios; third century.

MASPERO, JEAN.—*A propos d'un bas-relief Copte du Musée du Caire.* A slab of sculpture from an arch, said to come from Koptos, shows a figure seated in a boat, surrounded by water plants, on one of which are two birds, and a nest with eggs on another. Two fishes indicate the water below. There is nothing in the treatment at all like ancient Egyptian work, though the motives are all known in the early dynasties. Unfortunately the photograph is placed in the plate diagonally to its true vertical, which confuses the appearance.

This slab serves as a point of departure for examining the views on Coptic art, which have prevailed in recent years, in the writings of Ebers, Gayet, Riegl, and above all Strzygowski. The endeavours to emphasize resemblances in Coptic art to ancient motives are examined in detail, and shown to break down in nearly all cases. One allegation after another is rebutted with good effect. Beyond the Horus on horseback, the lock of Horus on the cross, perhaps the origin of **XP** monogram (not noticed in this article), and the unifying of the *onkh* with the cross, there does not seem to be a single point in Coptic art which would suggest Egyptian influence if found in any other country.

MASPERO, G.—*Un Exemple Saite de la transcription* **RIA** *pour* . Many examples of cuneiform transcription of names in the New Kingdom gives -riya, -ria, for Ra, both at the beginning and end. On the other hand in Manetho and later documents Ra is transcribed by Rē at the end, and Ra at the beginning or middle of names. At what point did this change take place?

The transcription of the XXVIth dynasty name Uah-ab-ra by Herodotos and Diodoros is Apriēs, while Manetho and the LXX use Ouaphrēs, Ouaphris, Ouaphrē. In this Sir Gaston does not take account of Apries being really the personal name, Haa-ab-ra, as Mr. Griffith pointed out. That does not, however, affect the evidence about Ra. Therefore *riē*, or *riya*, was the Saite pronunciation in the fifth century B.C. On the other hand, Herodotos uses the form Khefrēn, giving Ra as *rē*. Diodoros quotes this, but also uses Khabruis and Khabruēs from some other author, giving Ra as *rui* or *ruē*. The conclusion is that when the Greek forms became fixed in 700–500 B.C. the older *riya* was still in use, while in common language *rē* was coming into use and appears in the form Khefrēn.

REVIEWS.

Alexandrea ad Aegyptum : Guide de la Ville ancienne et moderne et du Musée Gréco-Romain.—E. BRECCIA. Sm. 8vo, 315 pp., 2 coloured plates, 196 figures and map. Bergamo. 1914.

The professions of this book are rather puzzling. Dr. Breccia has given, what all archaeologists wanted, an efficient and well illustrated summary of the Museum in his charge, 160 pages ; also 88 pages on the topography of ancient Alexandria, due from the latest excavator, who has studied it for long. All this is prefaced by a sketch of the history in 28 pages, and 15 pages to begin with about the commerce and affairs of the modern town. It looks as if this touch of guide book was to pacify the business instincts of the municipality whose name figures at the top of the title page. Curiously, it is published at Bergamo, has no Egyptian bookseller named on it, and no price.

On the topography Dr. Breccia discusses carefully the conclusions of previous writers, which he by no means accepts in detail. The depth to which all ancient foundations are buried, the rise of water level submerging all but late buildings, and the covering of the ground by the modern town which limits discoveries to chance digging for building, have prevented any scientific examination of the ancient city. One certain site is that of the Sebasteum, in the court of which stood the two obelisks, now removed. The great buildings of the Ptolemies can only be localised in a region, but not distinguished. The Serapeum is the other certain site, fixed by the imposing column which is seen for miles at sea, over the modern town. The great catacombs of Kom Shuqafa and Anfushy, the sites of Taposiris, Saint Menas, Canopus and Rosetta, are also described.

It will be useful to give here an outline of the contents of the Museum as described in the Guide. The inscriptions begin with a dedication to Ptolemy Soter. Some grave steles, with figures, recall the grace of those at Athens, though a century or two after the best work. The Roman funerary reliefs are very clumsy, scarcely better than those of Britain. Some papyri from recent discoveries illustrate the literary remains ; but such things can only be found in Upper Egypt, and do not belong to the Alexandrian discoveries. Some statues of the XIXth dynasty found in Alexandria and the neighbourhood, were brought there from ancient sites in Greek times. A fine piece of Saite tomb scene comes from Heliopolis.

One of the rarest objects is a wooden stand supporting a wooden bier on which is the mummy of a crocodile. This was used in the processions of the late form of Sebek, Petesouchos, and was found in the temple at Theadelphia, in the Fayum. The great gate of the temple is also preserved, with the dedication under Ptolemy IX in 137 B.C.

One hall contains the Antoniadis collection of antiquities of all periods. The more important objects are a table of offerings of King Amenemhat, and some fine bronzes of gods ; but, as a whole, it seems typical of the show collections of rich amateurs,—beautiful, but of no fresh interest. A finely cut stele shows the two sacred serpents of Isis and Serapis, different in form, as they are found also on

silver bracelets. Some fine heads of priests, and a Nubian, show that a vivid school of portraiture existed in the Roman age, which, while it was Roman in nature, was yet strongly influenced by Egyptian ideals: a mixture much like pictures in Western style by a Japanese artist.

Of purely Greek style are some excellent marble heads of the school of Scopas in the fourth century B.C. Others of Ptolemaic style and Roman work are much what we see in Italian museums. A fine portrait head of the close of the first century A.D. is remarkable for the beauty and character which it reveals.

A large number of capitals and architectural fragments show the late Corinthian development in Alexandria.

The vases typical of the Alexandrian cemetery are whitened, with a wreath of flowers in colours around the body; others are of the usual black iron-glaze. The lamps of pottery form a very large series, and it is to be hoped that when published the date of the locality where they were found will be stated. The dating of lamps is much required for understanding excavations. There is a small collection of glass, but not of importance.

Of the terra-cotta figures there is a good collection of the moulded figures beginning about the third century B.C., but apparently none of the modelled figures of earlier ages. Thence the figurines run down in style to the coarse Roman work of the third century A.D.

Many fresco paintings of small size have been removed to the Museum. Unfortunately, a fear of their fading has led to glazing them with deep yellow glass, which entirely prevents the colours being seen. A loose falling blind is a far better preservative. The remains of Christian period are comparatively few.

A fine collection of coins is a special feature of the Museum, gathered with the aim of forming as complete a series as possible of the Egyptian mint under the Ptolemies and Romans. An excellent large-scale map at the end of the volume shows all the ancient remains in red on the plan of the modern town in grey. We all have to thank Dr. Breccia for issuing such an excellent and useful publication which should be in the hands of everyone who thinks the ancient capital worth a few hours' visit.

Archaeology of the Lower Mimbres Valley, New Mexico. 1914.—By WALTER FEWKES. (Smithsonian Institution.) 53 pp., 8 plates.

This account refers to a region scarcely touched yet by research, but evidently containing remains of a considerable civilisation. A few parallels to Egyptian subjects should be noted. The contracted burials are seated, as the Peruvian, not recumbent; usually a "killed" bowl with a hole knocked in the bottom is placed over the head. This custom is explained thus: "Ceremonially every piece of pottery is supposed by the Hopi (tribe) to be a living being, and when placed in the grave of the owner, it was broken or killed to let the spirit escape to join the spirit of the dead in its future home." As we have no record of the Egyptian motive for "killing" pottery, furniture, etc., any clear statement like this is of value. Some animal figures (as Fig. 9) are much like the prehistoric Egyptian hippopotami. Hooked sticks, like those in the tomb painting in *Hierakonpolis*, LXXVI, are shown as carried by hunters; and parallels are given for such being throwing sticks used in hunting. Later they became sacred emblems among the Hopi. These similarities may serve to explain Egyptian usages, without any suggestion of actual derivation.

The Antiquity of Iron.—G. F. ZIMMER (*Cassier's Engineering Monthly*). 19 pp., Jan. and Feb., 1915.

In these two papers there are no fresh facts brought forward, and it is therefore needful to see how conclusions are reached which somewhat differ from those recently stated in this Journal (1915, pp. 20–23). The succession of Stone, Bronze, and Iron ages is declared to be a fallacy; but the only ground for this is the very rare occurrence of iron before bronze, though long after copper was known. An assumption is made that copper and bronze only were buried because they were cheaper and inferior to the valued iron tools; also that iron was necessary for cutting the harder stones. These are assumptions of the old type, without any evidences In reality, no metal was used to cut hard stones, but soft copper served as a bed for cutting points of emery. Actually, copper can be alloyed and hardened so as to be superior to iron, and only equalled by steel. The author relies on malleable meteoric iron as a primitive source, which is quite likely. The word *baă-ne-pet*, however, though meaning iron in Greek times, was used for haematite in earlier writing, as statuettes were made of it by Rameses III; no statuettes of iron are known, but they were often made of haematite. The name of the king of the Ist dynasty is, in contemporary form, Mer-pa-ba, written with the pool *ba*. This *ba* is probably the name of a deity, found on early inscriptions, but it may mean a hard stone, or a mine, or a causeway; there is nothing to show that it referred to the metal iron. Many statements require correction, such as "Fall of Troy, 1406 B.C."; "Iron in universal use under Ramses II even for implements of agriculture," apparently based on one iron sickle; "About 800 B.C. iron was already freely used for agricultural implements in Egypt," but I have never seen one such among the bronze hoes; the butchers of the Old Kingdom are said to sharpen their knives on "steels," which are doubtless whetstones; and quotations are made from the annals of Thothmes and Merneptah about objects of iron, which is a mistranslation instead of bronze. It is hard to imagine what version can have given such a misstatement. Altogether the exaggeration of the rare and sporadic use of early iron seems to be the only ground for asserting its general importance before 1200 B.C.

The Shining East.—EMILY M. BURKE. 8vo, 167 pp. 1*s.* Ralph, Holland & Co.

This is a fairly suitable course of elementary talks for small children on Egypt, Babylonia, and countries around, with 31 illustrations. It seems a pity that teaching books should start with oversights in the small stock of ideas which can be given in such a scope. We read here of the Egyptians being "an almost savage nation" in the Ist dynasty, when wealth and fine work was common: the builders of the pyramids are called slaves, and said to have been soon killed by toil, when they were probably relays of sturdy peasants, who were better rather than worse for the training; the sound given by the Memnon of Thebes is supposed to be an original design; the usual mistake appears about mixing straw with bricks by the Israelites; the nomad Israelites are supposed to have been better brickmakers than the Egyptians, who had thousands of years of experience; and in the map of Chaldea there is no hint that the coast was entirely different in ancient times. It is a pity not to correct such misleading matters, although the sphinxes on the cover have no heads!

NOTES AND NEWS.

A STRANGE development has arisen in Egypt regarding British excavations. For six years the British School of Archaeology in Egypt devoted a large part of its time and resources to opening up the site of Memphis, ascertaining the topography, and negotiating with private owners for rights to work in their land. When the new law on antiquities was passed—which would deprive work in private land of half its returns—an enquiry was made of Sir Gaston Maspero whether that law, which was intended to claim accidental discoveries from the *fellahin*, would be also applied to the very costly excavations under water. No reply was given to the enquiry, and thus the work was hindered for the season 1914.

On the outbreak of the War all of the British School Staff took service at once, and the excavations were necessarily suspended. At this national crisis, the Philadelphia Museum (which had received large returns from the British School work), without a word of enquiry or explanation, acquired from the Department of Antiquities a site at Memphis which had already been examined and reserved for future work by the British School. No word of information was given to the previous workers, and no copy of the Report lately published has been sent to the British School. Enquiries addressed to the Department of Antiquities have been ignored. A casual quotation from an American newspaper was the only source of information regarding the acquisition and working of a site which the British School had already discovered, examined, and reserved for the future.

Entire secrecy has always surrounded the acts, regulations, and concessions of the Archaeological Committee of the Department in Egypt; but the suppression from an excavator of all news of giving away his discoveries to others, is a further stroke of arbitrary treatment. On both the part of the Egyptian Government and of the Philadelphia Museum the silent attack on British excavation is a very strange course in a British Protectorate. The British School has never intended to relinquish the work at Memphis, on which so much has already been done; and to take advantage of the response of our workers to the national needs at the present moment, is a course which could not have been expected unless in anti-British interests.

Of our former workers in Egypt, Mr. Brunton now has a commission in the R.A.M.C. Lieut. Engelbach is organising bases with an Egyptian gang in the Aegean. Dr. Amsden, after service in England, is now at the hospitals in France. Lieut. Horace Thompson is drilling recruits at Cannock Chase. Lieut. North is drilling recruits of the West Surrey's at Shoreham. Mr. Willey is with the Political Agency in the Persian Gulf. Mr. Hayter is in the Censor's Office on correspondence. Mr. Mace is in the Artists Rifles, expecting a commission.

Of our friends in the subject, we have to deplore the loss of one of the most promising young Egyptologists, in Lieut. James Dixon, who had worked for some years in Nubia, at Abydos, and in the Sudan. This is a sad break in the small band of competent English workers, and one which all who knew him will personally deplore.

THE PORTRAITS.

THE interesting account of the excavations at Lisht, which Dr. Lythgoe has kindly supplied to us, prompts the comparison of two heads of Senusert I, here placed together. The sculpture of Koptos evidently represents the king at a much later period of his long reign, than in the statuette of Lisht. The jaw is fuller, the lips more rounded, and the expression that of a man of fifty, and not of a youth of twenty. It is worth while to study the differences of treatment, in the round and on the low relief. The proportion of distances between the back of the ear, the end of the eyebrow, and the forehead, are almost the same. There is a slight spread of the inner side of the eyes on the relief in order to show the whole; but there is less difference between the round and the flat, than might be supposed on looking only at the relief. The main differences are in the shape of the ear, and the shape of the top of the crown. The portrait from Koptos is on one of the slabs of the temple of the XIIth dynasty, which had been laid face down, in the foundations of a later temple.

The results of Dr. Lythgoe show how little we know about the course of the funeral ceremonies. That the preservation of dead sacred animals was an act of devotion we know from the abundance of such carefully mummified, and specially from the imitations of mummy crocodiles on a small scale which were buried. Hence the preservation of a dead jackal would be an act to acquire merit with Anubis, and to ensure the divine protection. The offering of a bandaged jackal and a jar of ointment would be specially acceptable to *Anpu em amiut*, "Anubis in his bandages," who was the god principally appealed to on the funeral steles for protection. It would be the direct emblem of that aspect of the god. When such an emblem was placed with the figures of the king it would be a special appeal to Anubis to ensure his care for the king. There is also another sense possible, suggested by the emblem being placed with the deceased Osiris in his shrine, at the judgment scene; it may be taken as a pledge that the deceased has been perfectly preserved in his mummifying, even as the Anubis figure itself. These discoveries show how carefully excavators should search the area of work, where some of the best results may be hidden or lost in any perfunctory clearance.

MEETINGS OF RESEARCH STUDENTS' ASSOCIATION.

PROF. PETRIE will welcome members of the Research Students' Association and other friends at the Egyptian Collection, University College, on Nov. 15 and Dec. 15, at 3 to 4 p.m. It is hoped to resume the usual meetings after Christmas.

SENUSERT I. KOPTOS, UNIVERSITY COLLEGE, LONDON.

SENUSERT I. LISHT, METROPOLITAN MUSEUM, NEW YORK.

ANCIENT EGYPT.

THE EGYPTIAN ELEMENTS IN THE GRAIL ROMANCE.

In the series of legends of which the Grail romance is composed, there is a tradition concerning Joseph of Arimathaea. Skeat has pointed out that this tradition is separable into two distinct versions; one, he says, is "legendary and does not greatly transgress the bounds of probability," while the other he stigmatises as "purely fabulous and obviously of later invention."

Both accounts begin with the imprisonment of Joseph after the Crucifixion, and his release by Vespasian. In the "legendary" version Joseph joins St. Philip, is baptised by him, accompanies him to Gaul, and is sent by him to convert Britain. But it is with the so-called "fabulous" version that I am concerned, as I hope to prove that it originated in Egypt.

This version appears, in spite of its incoherence, to be a solid block—if I may so express myself—of otherwise unrecorded history. It is evidently composed of three distinct portions: (1) In the first is the account of the war between the kings of Sarras and Babylon, called respectively Evalach and Tholome, ending with the defeat and death of Tholome. In this the part which Joseph plays is so small that it could have been omitted without injuring the story. (2) The second part is devoted to Joseph and his son Josephes; and to this belongs probably the long account of the consecration of Josephes, though it really occurs in the legend itself almost at the beginning of the story, perhaps for chronological reasons. The sermons of Joseph and the dreams of Evalach also belong really to the second part, which is in its essence the narrative of the conversion of that district of Egypt to Christianity. (3) The third part gives the adventures of Mordrayns and Nasciens, after the departure of Joseph and his little company of Christians, and ends with the re-union of all the *dramatis personae* in Great Britain. The third part does not seem to have had any real connection originally with the first, but by the simple expedient of changing the names of Evalach and Seraphe in baptism to Mordrayns and Nasciens, the two legends are fused into one. Malory, however, looks upon Evalach and "Mordrams" as two distinct personages. I give here an epitome of the legend, from the arrival in Egypt of Joseph, with his family and friends, to their departure and final re-union in Britain. I follow Lovelich's version as being the most detailed.

Chief personages mentioned in the legend:—

Ermonies. A hermit-saint.
Evalach, afterwards Mordrayns. King of Sarras.
Ferreyn. A giant.
Flegentyne. Wife of Seraphe.
Joseph of Arimathaea.
Josephes, or Josaphe. Son of Joseph. First Christian bishop.
Mordrayns, or Mogdanis. Baptismal name of Evalach.
Nasciens. Baptismal name of Seraphe.
Salustes or Salustine. A hermit-saint.
Sarracynte. Wife of Evalach and sister of Seraphe.
Seraphe, afterwards Nasciens. Duke of Orbery.
Tholome Cerastre. King of Babylon.

1. Joseph of Arimathaea, with his family and friends, all Christians, leave Jerusalem by way of Ephrata and reach Argos, half a league from Bethany, in the country of Damascus. By divine command Joseph makes an ark of wood to contain the Holy Vessel.[1] Next day they reach Sarras, where King Evalach is holding a council of war. Evalach is a foreigner who had succeeded the old king of Sarras, and had conquered the whole land "iusk'en l'entrée de egypte." [A variant says that Evalach had helped Tholome in his campaign against Holofernes, and that Tholome had placed Evalach on the throne of Holofernes.] Evalach is at war with Tholome Cerastre, king of Babylon, who has invaded the country, captured cities, and is now besieging Castle Valachim. Joseph promises Evalach victory if he will become a Christian. The king lodges the strangers in the "spiritual palace," and gives such noble hospitality that the good food and the good beds are considered worthy of mention. Here follows the account of Josephes' consecration, which should properly come into the second part.

2. Joseph prophesies that Evalach shall fall into Tholome's power, but shall be victorious if he embraces Christianity; Joseph breaks the idols in order to prove to the king that they are devils. Sarracynte is already a Christian, having been converted by the hermit Salustes, who had healed her mother. When he died Sarracynte had helped another hermit, Ermonies, to bury him. She has, however, never acknowledged her conversion publicly.

3. Evalach hears that Tholome is besieging Castle Valachim, with twenty thousand horse and forty thousand foot. He dispatches his vassals to Castle Tarabe; and before he himself starts, Joseph makes, with two strips of red cloth, a cross on Evalach's white shield. The king then rides with "a Ryht gret Compenye of knyhtes" to Tarabe, where he stays for eight days assembling his troops. At the end of that time they set forth to raise the siege of Valachim. They pass through a forest, cross a valley, and climb a hill from the top of which the besieged castle is visible. In the battle which ensues, fifteen thousand men are killed, and Evalach is forced to retreat to Castle Comes, two miles away, hotly pursued by Tholome. The besieged garrison, by a sortie, capture Tholome's camp and equipment, so that Tholome, returning from the pursuit, finds his tent and pavilions all "to-broke."

4. In the morning Tholome learns that Evalach is at Castle Comes with a small retinue, he determines to take half his force to capture his enemy, the other under the steward Narbus remaining to continue the siege. Tholome starts late and marches all night. Meanwhile Evalach hears, from a spy, of the successful sortie of the Valachim garrison, and he leaves Comes with seven hundred horse and nine hundred foot to make another effort to raise the siege. Five miles from Comes he meets a messenger from Sarracynte warning him to leave that castle as Tholome is on his way to besiege it. Evalach then makes toward Sarras, and meets Seraphe who is bringing a body of four thousand horse to his aid. On Seraphe's advice they all go to Orkauz rather than to Sarras, as being a stronger city and more central for news. Close to Orkauz is a red rock called the Rock of Blood. It is four bowshots high, and between it and the river is a narrow passage, wide enough for only ten men to walk abreast.

5. Evalach remains at Orkauz a day and a night to assemble his forces. Early in the morning part of Tholome's army arrives before the town. Evalach leaves an old knight and a hundred men as a garrison, and attacks the enemy, who,

[1] "Forto do in thilke blod thou bearest about." *Alliterative Lyfe.* Skeat. Early English Text Society.

weary with the long night march, are easily routed. Evalach and Seraphe skilfully drive them to the passage by the rock, where the slaughter is so great that the rock is stained red and is called the Rock of Blood afterwards. Two miles beyond the rock, Tholome's main army is seen advancing, and a pitched battle ensues. Evalach's force is divided into four battalions: the first under Seraphe, the second under the steward, the third under an old worthy warrior named Archimedes, and the fourth under his own command; at the same time he sends Jeconias to guard the Passage of the Rock. Tholome's army is divided into eight battalions; and the order of battle is that the first two shall go against the steward, the third and fourth against Archimedes, the fifth commanded by Tholome against Evalach, and the sixth against Seraphe, while two battalions are held in reserve. Evalach has 10,300 men in each battalion, 41,200 in all; Tholome has 16,000 in each battalion, 128,000 altogether.

6. A tremendous battle takes place; and but for Seraphe's heroic deeds, Tholome would have had an easy victory. But weight of numbers begins to tell: Evalach is taken prisoner, and is led into a wood to be disarmed and killed. In this extremity he casts his eyes on the red-cross shield and, remembering Joseph's prophecy, he prays for help. At once there issues from the forest a knight royally armed, with a red-cross shield about his neck and riding a horse "As whyt as the Lylye Flow'r." The knight seizes Tholome's bridle rein, and leads the Egyptian king through the Passage of the Rock. On the further side is an open space: the white knight looses Tholome, charges at and unhorses him. Evalach runs up and makes him prisoner, while Tholome's immediate followers are killed or captured by Evalach's soldiers. Jeconias removes all the prisoners to Orkauz, while Evalach returns to the fight.

7. Here the white knight, carrying Evalach's banner, is fighting beside Seraphe. Evalach leads his men on, and Seraphe attacks the Egyptian rearguard. The Egyptians draw, or are driven, back to the Rock, hoping that they may escape that way, but it is already held in force by Jeconias. Caught between two forces, the Egyptian army is cut to pieces:—

> "And thus the Egypcien, be goddis Myht,
> At theke tyme weren distroyed be fyht."

Orkauz is so full of prisoners that Evalach has to camp outside for the night. Next day Evalach and Seraphe return to Sarras. This appears to me to be the end of the first part, the second part being devoted to the account of the conversion of Evalach and his subjects to Christianity.

8. A wounded knight is miraculously healed by touching the cross on Evalach's shield, a sight which converts Seraphe, who is baptised by the name of Nasciens. Seraphe then converts Evalach and the wounded knight, who are both baptised and are called Mordrayns and Clamacides respectively. By the particular favour of God, Tholome dies at this time "with Dolowr." Sarracynte at last acknowledges her own faith, which she has held in secret for twenty-seven years, and the people of Sarras, to the number of five thousand and more, are baptised.

9. To this second portion belongs probably the consecration of Josephes, which I shall consider in detail later. Joseph leaves the ark at Sarras under the charge of three men, and goes to Orkauz to destroy the idols and to convert the people. Mordrayns banishes all those who will not accept Christianity. Joseph then goes to Nasciens' country, breaks the idols, and baptises the people. On his return to Sarras he ordains thirty-three bishops: sixteen to remain at Sarras, the

remainder to go about preaching. He then sends for the bodies of the two hermits, Salustes and Ermonies, and buries one at Sarras, the other at Orbery, erecting a church over each.

10. Joseph exhibits the Grail to Mordrayns and Nasciens; the latter lifts up the "plateyne" above the glorious vessel and is at once struck blind, but miraculously healed later. Joseph, having explained the mysteries of the Grail, leaves the country accompanied by two hundred and seven people. This is the end of the second part; Joseph does not appear again in the narrative till he is about to cross the sea to Britain.

11. The third part is devoted to the adventures of Mordrayns, Nasciens and Celidoine, and introduces an entirely new set of incidents. Mordrayns and Nasciens are alone in a room in the palace, when, to the accompaniment of an earthquake and horrible noises, Mordrayns is whisked away and disappears. Nasciens is accused by the wicked Sir Calafere of having murdered the king and is imprisoned, in spite of his sister's entreaties.

12. Mordrayns finds himself on a rock, seventeen journeys within the sea. This rock stands in the route from Scotland and Ireland to Babylon, and is so high that Wales and Spain are visible from its summit; it is a desert without arable land. Here there is recounted an incident of Pompey's naval campaign against the Cilician pirates, whose headquarters are said to have been at this rock. Various supernatural people arrive in ships to tempt Mordrayns or to console him, amongst others the hermit Salustes, upborne above the sea by two birds under his feet.

13. Meanwhile, Calafere has thrown Celidoine into prison with Nasciens, and deprived Flegentyne of her possessions. On the seventeenth night, which was the ninth day of the kalends of juignet (July), Nasciens is miraculously released from prison and carried away. Calafere then attempts to kill Celidoine who is snatched away by nine snow-white hands, while a thunderbolt kills Calafere. Sarracynte sends five messengers to find Nasciens. Nasciens has been put on the Turning Isle, where he has supernatural visitants.

14. Flegentyne takes refuge with an old vavasour; she then goes in search of Nasciens, taking the vavasour and his son with her. They start as if for Sarras, then turn to the right and go westward; they cross the river Arecuse "that toward Orbery Ran In gret haste," and after riding all day they reach a royal place of lime and stone standing beside the castle of Emelianz, "that marched next to the dwchie On that flood." This is a heathen country. Next day they ride five leagues and arrive in the country of Calamyne, where nard, cinnamon and balm are found. On the third day they come to the city of Lussane, the capital of the king of Meotide.

15. Celidoine has also been put on an island. During a storm two ships take refuge at the island. These are full of Persian soldiers on their way to the campaign in Syria. Celidoine converts Labell, the Persian king, who is baptised and dies. The Persian soldiers accuse Celidoine of having murdered the king, and as a punishment send him afloat in a little ship on which they have put a fierce lion. After various adventures he reaches the Turning Isle, where he finds his father. The two embark on Solomon's ship and meet Mordrayns in another ship. All go on board Mordrayns' vessel.

16. Queen Sarracynte's messengers arrive at Tosquean (Roquehan), the birthplace of the parents of St. Mary the Egyptian. They are informed in a vision that Nasciens is in a ship on the sea towards Greece. They therefore make for the

coast, riding through a country so hot (it is now August) that all the men go naked. One of the messengers dies of thirst and is buried in the chief city of Egypt, "where-Offen Alisaundre is the Name." They find a ship in which are two hundred dead men and a living girl; she is the daughter of King Labell, and the men are Persian soldiers killed in a sea fight. The messengers bury the dead, then go on board the ship with the damsel. The vessel is blown out to sea, strikes a rock and sinks, and two of the messengers are drowned. The other two messengers convert the damsel to Christianity, and all three are rescued from the rock by an old man who arrives in a little boat with Celidoine's lion. The little boat goes straight to the ship which is bringing Mordrayns, Nasciens and Celidoine. The whole party are united on the big ship, and

> "the lytel vessel wente with the lyown as faste Away
> As Evere flew swalwe In the someris day."

17. After two nights they come in sight of Castle Barne, which belonged to Mordrayns' son and was "In the Ottrest partye of his Owne land Toward the see." The hermit Ermonies appears, clad as a priest and walking on the water. At his command Celidoine enters an empty boat and sails away. The rest land at Castle Barne, Sarracynte comes to meet them; Flegentyne returns from the land of Meotide, and the whole party are re-united at Sarras. This would seem to be the legitimate end of the Mordrayns-Nasciens adventures; but the loss of Celidoine, and the search for him, continues the story.

18. Nasciens departs by himself in secret to find his son. Flegentyne sends people to find Nasciens and to bring him back. Nabor, a wicked knight, tracks Nasciens by the nails in the horse's shoes, and finds him fighting the giant Ferreyn. Nabor kills Ferreyn, then tries to kill Nasciens for refusing to return; he drops dead at Nasciens' feet. Nasciens' people come up, and the situation being explained, the lord of Tarabel thinks Nabor was well served for having tried to kill his liege lord. A divine voice denounces the lord of Tarabel as a parricide and a thunderbolt strikes him dead. At Nasciens' request, Flegentyne buries the three bodies, and erects three tombs called the Tombs of Judgment "in the Entre be-twene Tarabel and babiloine." She returns to Castle Bellyc, and Nasciens proceeds to the coast and enters Solomon's ship.

19. Joseph of Arimathaea and his followers arrive at the coast opposite Great Britain, where there are neither ships nor galleys. The Grail bearers walk dry-shod over the water; Josephes spreads his shirt on the surface of the sea, and God so stretches it that a hundred and fifty people are conveyed across upon it. The rest of the company, who were sinners, remain on the shore weeping.

20. Nasciens, after several days, arrives at the place where these sinners are waiting. He takes them into his ship and they all reach Great Britain, where they find Joseph and his party, and Celidoine as well. On their arrival in North Wales, King Crudelx imprisons them. Mordrayns, warned in a vision of their predicament, leaves Sarras with Sarracynte, Flegentyne, and King Labell's daughter, and rescues his friends.

I propose to examine: (1) the place-names; (2) the personal names; (3) the details which show an Egyptian origin; and (4) I shall discuss the probable date.

My sincere thanks are due for much kind help: in the Arabic words and derivations from Prof. T. W. Arnold; and in the liturgical parts from Mr. Henry Jenner.

1. *The Place-Names.*

Babylon.
Barne.
Comes.
Damascus.
Mordrayns' Rock.
Orbery.
Orkauz.
Rock of Blood.
Sarras.
Tarabe.
Tombs of Judgment.
Turning Island.
Valachim.

That the whole action takes place in Egypt is indicated, at the beginning of the legend, by the route which Joseph followed on leaving Jerusalem. He went south by way of Ephrata, and journeyed without incident till he reached Argos, or Agais, near Bethany, in the country of Damascus. Most of the modern commentators have put this down to an ignorance of geography on the part of the "inventor" of the legend, and have therefore made no further investigation. The confusion has arisen from the fact that the desert which lies between Suez and the Delta to the south of the Wady Tumilat is known as Gebel Damashq, the country of Damascus. There are caravan routes across this desert from Ras al-Wady to Cairo, Belbeis, and Al-Khankah, which are shorter than going through the cultivated country. It was in this desert, probably on the edge, as Argos was the name of a wood, that Joseph halted. The name Bethany is probably a local name, which in its spelling has been influenced by the better-known Biblical name; Beth Ain, the House of the Well, is perhaps the origin.

The next place mentioned is Sarras, "si estoit entre babiloine & salaundre."[1] This indication of a position between Old Cairo (*i.e.*, Babylon) and Alexandria at once narrows the enquiry to the western side of the Delta. Here, in the province of Manūf in the south-west of the Delta, are several villages, of which the word Sarras forms part of the name: Sersa, Sersmūsi, Sersenā, Sers al-Liyaneh, and so on. The word as written in Arabic is سرس SRS, which, when pronounced with a slightly rolled R, would be written phonetically as Serras or Sarras in a European language. The legend gives a very clear indication as to which Sarras is intended, by specifying that the one in question contained a spiritual place or palace. This is not the "spiritual city" of Tennyson but a solid tangible place, a building into which Joseph and his followers entered, where they lodged, where the Grail was left under the charge of three appointed men, where Josephes was consecrated, and where his episcopal chair was preserved as a holy relic; within "the spiritualities" also Sir Percival's sister, Sir Percival, and Sir Galahad were buried. Reviewing these statements the "spiritual place" resolves itself into a Christian church: in its sanctuary, mass was celebrated, the Eucharistic vessels were kept, and bishops were consecrated; in its cemetery, Christians were buried; and in its guest-rooms, travellers were housed. Of all the Sarras villages only one contains a church, Sers al-Liyaneh, which has a church dedicated to Māri Girgis, or St. George. No evidence is forthcoming as to the date of the present structure, but that the dedication is as old as the legend is shown by Joseph's placing the red cross of St. George on Evalach's white shield. When Evalach as a prisoner appeals to this emblem, a knight bearing a red cross shield comes to his rescue, performs great feats of valour and vanishes when the day is won. It can hardly be doubted that this knight was Māri Girgis himself. It must, however, be taken into

[1] *Li Livres du Saint Graal*, leaf 10, col. 2. Early English Text Society.

consideration that Sersenā, some distance to the north of Sers al-Liyaneh, was a bishopric in the fifth century; for the bishop of Sersenā was present at the Council of Ephesus. There is, however, as far as I know, no church or tradition of a church at the place; therefore in following Evalach's campaign I look upon Sers al-Liyaneh as the Sarras of the legend.

Since writing the above I have received, through the kindness of Marcus Simiaka Pasha, the following information concerning Sers el-Liyaneh and Sersenā: "The Church at Sers el-Lianna is quite modern. It is dedicated to St. George, and possesses, besides an icon of the Patron Saint, icons of our Lord, the Blessed Virgin, etc. The church has no history. There is in the same village a mosque built on a mound surrounded by houses. The Parish Priest writes to say that one of the oldest inhabitants assured him that a great many years ago one of these houses was demolished, revealing the door of an ancient church under the mosque. The door was walled up, and the house rebuilt. Sarsina is not far from Sers el-Lianna. There was an Episcopal Church at Sarsina but there is no trace of it now. The name of Sarsina often occurs in Coptic Church literature. Saint Liaria, who is commemorated by the Coptic Church on the 25th Abib, went there before she received the crown of martyrdom. A Bishop of Sarsina was present at the Council of Ephesus. I also find that a Bishop of Sarsina was present at a Council which was convened at Misr by Cyril, 67th Patriarch of Alexandria, who ruled the Coptic Church, between A.D. 1076 and 1089, during the reign of the Fatimite Khalif Al-Mustansir and the Vizierate of Emir al-Guyūsh. The same Bishop was present at a garden party at the Vizier's palace with the Patriarch and forty-six Coptic Bishops on the 23rd Misra, A.M. 802 (August, 1085). On this occasion Emir al-Guyūsh asked the Patriarch and the assembled Bishops to prepare a revised edition of Coptic canonic laws."

I am able to identify only a certain number of places mentioned; some of them are called by different names in different versions; thus Oriable, the city taken by Tholome Cerastre, is also called Nagister and Ouagre, neither of which names can be found. Oriable might be one of the many names ending in *opolis* contracted to *opol*, thence to *able;* but as the city is not important to the understanding of the story, I have not made much effort to find it. In some of the names, the ordinary variations of consonants occur, B and V, L and R, and perhaps B and M.

Tarabe is the first place to which Evalach went from Sarras. This is called in different versions Tarabel, Tarabiel, Carabel, and Carboy. It was sixteen miles from Valachim and twenty from Sarras. The variation in the spelling of the name shows that in some one instance it must have been written phonetically. The form with final *l* seems to be influenced by the spelling of the name Tarabel, whose lord was a liege-man of Seraphe; but as Tarabe belonged to Evalach the two can hardly be identical. It is evidently a three-syllabled word, beginning with T or a hard C. Taking the form with initial C as the original, Tarabe may perhaps be found in the modern Qalameh, in Coptic ⲕⲗⲁⲙⲏ. This place is about twenty miles from Sarras, though only nine as the crow flies from the place which I think can be identified as Valachim. To reach it Evalach must have made a détour either to the north or south in order to avoid Tholome.

Valachim is also called Valachin; and the French version gives Evalachin, apparently deriving the name from the king; this derivation cannot I think be considered seriously. The description shows that the castle was very strong; the gate was a stone-cast high, and beneath it ran a river an arrow shot wide. There

was only one other gate, a small one in a corner, in front of which was "plein Erthe" for thirty paces. From the description of the fighting, Valachim lay to the south of Sarras. To the south of Sers al-Liyaneh is a place called Al-Barashim (in the French maps Barchoum), a name which coincides letter for letter, in the Arabic, with Valachim ; even the E in the form Evalachin is accounted for by the prefixed definite article. Al-Barashim is situated on the east bank of the Damietta Branch of the Nile. The description says that the river actually ran through the town, but this may be intended to mean a channel diverted from the main stream. The military importance of Valachim must have been very great, lying as it did either on or actually over the river, and will account for Tholome's anxiety to take it, and for Evalach's risking a severe defeat in the attempt to relieve it.

Castle Comes has the variants Coines and Lacoines. These I take to be a mistake of the copyist, who has taken the *m* of Comes to be *in ;* the same mistake reversed is seen in the names Mordraines and Celidoine, which become Mordrames and Celidome. The definite article La simply translates the Arabic Al ; the word Comes representing the Arabic *Kūm* or *Kōm* قوم a mound, with the usual latinised termination. Mounds are so numerous in Egypt that, unless some distinguishing epithet is included, it is impossible to identify so common a name. There is a *Kūm* at-Taiss west of Al-Barashim, but several miles from that town. The text, however, does not give the distance from Valachim, but from the place whence Evalach retreated. From Kūm at-Taiss he could return to Sarras by keeping to the edge of the desert, thus obviating the risk of a collision with Tholome's army. It was on this journey that he met Seraphe.

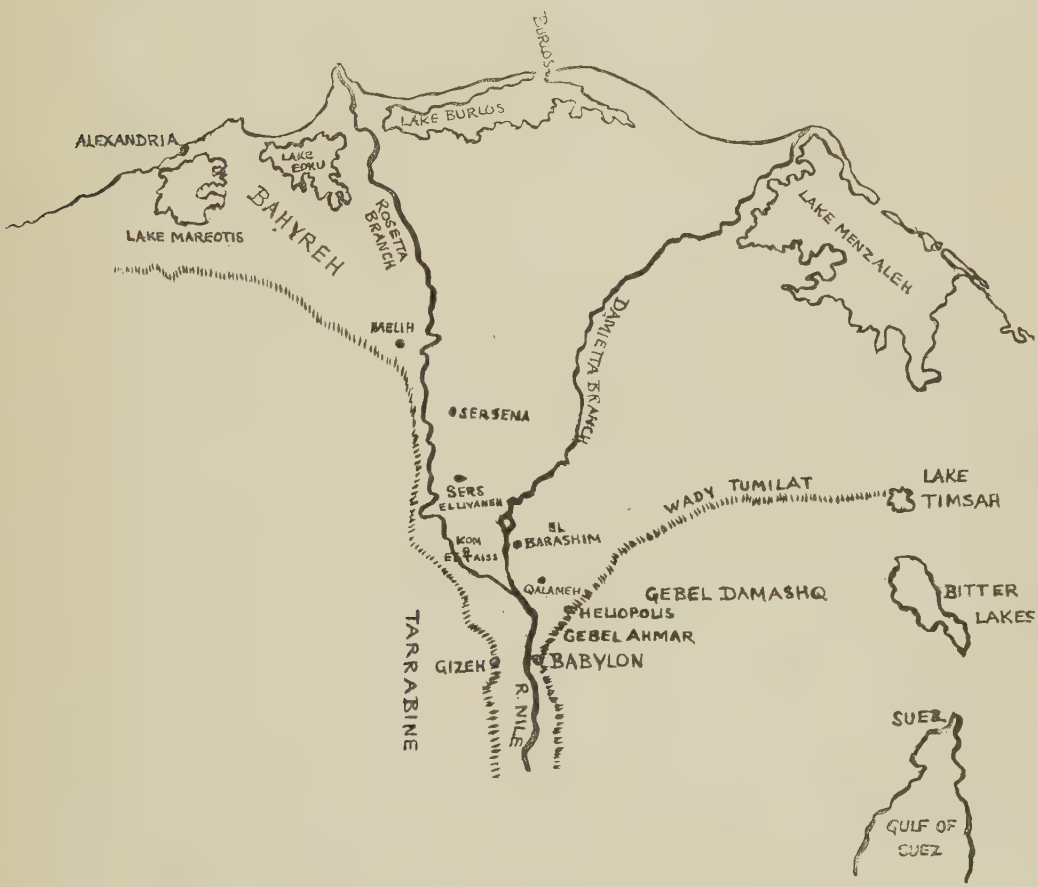
Seraphe was the ruler of Orbery, the variant of the name being Orberike. This I take to be Al-Bahri, the North ; the guttural seems to be usually dropped, though a reminiscence of it remains in the form Orberike. A proof of the northern position of the place is given in the description of Flegentyne's journey in search of Nasciens. She starts from Orbery along the road to Sarras, then in order to go westwards she turns to the right. Seraphe's own name, as I shall point out later, is North-Egyptian. Seraphe, arriving from his own province, and keeping to the west, would leave Sarras at some distance to the east, and would meet Evalach south of that town.

Evelach and Seraphe betake themselves to Orkauz (variant : Arkauz). It is one of the chief cities of the king of Sarras, and near it is the Rock of Blood. The position of the Rock is given thus :—

> " And Into the Ryht side it laste Evene ryht,
> Down to the water of Orkauz . . .
> And the left partie it Ran Evene West,
> Into Babyloigne that Riuere went ful prest."

The red rock, then, is near both Orkauz and Babylon and stands close to the water of Orkauz, which ran rapidly from Orkauz to Babylon. Babylon is of course the great fortress which played so large a part in the defence of Egypt against the Arab invaders, and is now known as Old Cairo. It lies to the south of the modern Cairo. Not far to the north of Babylon is the Gebel Ahmar, or Red Hill, rising three or four hundred feet. The exact position of the river bed in this neighbourhood in mediaeval or still earlier times is not very accurately known. Orkauz, from the description, lay to the south of Babylon, yet within striking distance of the Gebel Ahmar. The first syllable of the name, as in Orbery, appears to me to be the Arabic *El* or *Al*, the definite article. The only place, the name and position of

which correspond with the text is Al-Gizeh, or rather Gīz; the word means, according to Maqrizi, the side of a valley, singular جيزة *gizeh*, plural جيز *gīz*. From Gizeh, which lies nearly opposite to, but slightly to the south of, Old Cairo, the river would run "into Babyloigne." It was a commanding position, as from it Tholome's movements could be watched. The difficulty is that it is on the west of the river, and no mention is made of a crossing, which would certainly have been the case had Evalach had to move his army of forty thousand to the eastern bank. The only solution is that the passage by the Rock is a misunderstanding for a bridge or causeway of some sort; the battle would then be fought for the possession of the bridge. Great stress is laid throughout on the importance of this narrow passage, which cannot be explained if it were merely an inconveniently narrow path on one side of the river. The neighbourhood of the Gebel Ahmar has



Places Named in the Egyptian Delta.

always been a traditional field of battle, for it was here that Horus fought against Set. In examining the map, it will be seen that Evalach held both the Rosetta and Damietta Branches of the river, and apparently also the main stream at the head of the Delta. Tholome was attempting to capture Valachim which commanded the Damietta Branch; and failing that, he fought a pitched battle for the possession of the river near Babylon. To anyone who knows the country, this plan of campaign appears remarkably sound. Evalach's desperate resistance against an army much greater than his own shows that he realised the importance of the positions attacked. To hold the river meant then, as now, to hold Egypt.

In the last part of the story there are a few names which suggest an identification with places to be found on the map. The names in Flegentyne's journey in search of Nasciens are obviously real from the careful particularity with which they are mentioned, but I have so far failed to identify more than one. She appears to have gone due west into a country which is now a barren desert, but "there is express evidence that practically the whole of the coast provinces west of Egypt continued well populated and well cultivated for some three centuries after they fell under Arab dominion." (Butler, *Arab Conquest*, p. 10.) After several days' journey Flegentyne reached Lussane, which may very well be the modern Lucha, which is called Luchon by the Spanish Franciscan who visited the place in his travels through Barbary in the middle of the fourteenth century.

Mordrayns' Rock is said to lie between Scotland and Babylon, and between Ireland and Babylon. This suggests that it was on the sea-route from the west of the British Isles, which was by way of the Bay of Biscay and the Pillars of Hercules; and not on the land route by way of France and the English Channel. The Rock of Gibraltar answers somewhat to the description as being near Spain and Gaul, or perhaps Galicia (Gales=Wales), and being barren and without arable land; its position also, lying as it does on the sea-route for vessels from Egypt to the west of the British Isles, is also in favour of this identification. Against this, however, is the fact that Pompey's naval war against the Cilician pirates was actually in the Eastern Mediterranean, and there is, I think, no proof that he went as far west as Gibraltar in that campaign.

The description of the Turning Island reads like the attempt of someone accustomed to a tideless sea to describe the phenomenon of the ebb and flow of the tide. The island is drawn down into the sea, and the water rises till it nearly covers the land, then the island disengages itself and gradually draws out of the water till it reaches its original height and breadth, and this happens every time the firmament turns. No explanation is given of the turning of the firmament, which seems to be considered something of daily occurrence. The mixture of piety and pseudo-science in the explanation of the phenomenon of the Turning Island, especially the account of the loadstone, is quite in the style of Arab writers; and it is noticeable that wherever in Arabic we should expect the name of God, there is here always a paraphrase: "li establissieres del monde," "li souuerains peres, qui est fontaine de toute sapiense," "chelui a qui toutes choses sont obeissans."

The messengers are said to pass through Egypt where the people are naked in the hot months—and it is worth noting that the whole action is said to take place in the height of summer. This part of the country is obviously the Delta, for the messenger who succumbed to thirst is buried at Alexandria, showing that he must have died near that city, for the body could not have been carried very far in the great heat. On the return of the party, they land from the ship at Castle Barne on the coast, which may very well be the modern Burlos. Burlos, lying as it does at the entrance to Lake Burlos and the mouth of the Damietta Branch, was of great importance, and must have been a strong fortress.

In the last part of the legend, two place-names are mentioned, Castle Bellyc where Flegentyne stays, and Tarabel where the Tombs of Judgment are set up. Bellyc is in Orbery and may be Melih in the province of Al-Bahyreh. The legend implies, though it does not say so, that the tombs were erected where Nasciens fought with Ferreyn; in describing how Flegentyne took money and workmen to make the Tombs it shows that they were at a distance from Castle Bellyc; the exact position is given as being in "the Entre between Tarabel and Babiloine."

This can only mean the part near Cairo, and may be a confused reference to the Pyramids of Gizeh; the highest, *i.e.*, the Second Pyramid, being in the middle. This identification is made the more probable by the fact that the district to the west from Abu Roash to Dahshur is known as Tarrabine.

The Personal Names.

The names of the principal characters also show an Egyptian origin. The most striking is that of Tholome, king of Babylon. This name is given to two kings: 1. Tholome, who fought against Holofernes, and to whom Evalach fled from Syria; and 2. Tholome Cerastre, who invaded the kingdom of Sarras and whom Evalach finally defeated. The name is clearly a reminiscence of Ptolemy; and as it is applied to more than one king of Babylon, it is evident that there was still a popular tradition of several kings of Egypt bearing that name. Apart from the fact that Tholome was king of Babylon, the connection with Egypt is again proved by the epithet of "Egipcien" always applied to the army of Tholome Cerastre. The variants of the king's name are Tholomer and Tholomes; for the final *r* I can offer no explanation, but the final *s* appears to be the masculine termination of the Latin and occurs in many of the proper names.

Ermonies (variant, Hermione) is the Coptic saint ϩⲉⲣⲙⲓⲛⲉ, Hermine, Latinised as Arminius. His day is kept in the Coptic calendar on the 2nd of Kihak (Nov. 28). Very little is known of this saint: the legend given in the Synaxarium is obviously not historical, it consists almost entirely of his ordination by the chief apostles and of an encounter with the devil. He is said to be buried at Qaû, and miracles occurred not only at his tomb but at every church dedicated to him. Salustes (variant, Salustine) is the other hermit-saint; I have not yet been able to identify him, but the mention of birds beneath his feet should lead to his identification.

Seraphe (variant, Seraphee) bears a name which can be traced back to Egypt. The variant shows that it is a three-syllabled name. It is a form of Serapis, the final *s* in this case being omitted; the aspirated P is common in Boheiric (thus ⲡⲁⲓ becomes ⲫⲁⲓ); this pronunciation was probably transmitted by the Egyptians of the Delta to their more northern neighbours, and we get Pharaoh for the Egyptian , and the Coptic ⲡⲣⲣⲟ, ⲫⲑⲁ for the Egyptian . Serapis was also a god of the North, and his name would in all likelihood be given to a man of the Delta. Seraphe was evidently a popular hero, and it is therefore quite possible that some of his warlike exploits were originally told of a god.

The name Sarracynte suggests a derivation from Saracen, but it must be remembered that it might derive also from the name of the town of which she was queen. The termination *in* which is found in several of these personal names,—*e.g.*, Mordrayns,—is the Arabic ين *īn*, the genitive plural. It is found in the word Saracen, which is the Arabic شرقيّين *Sharqiyyīn*, meaning "[the people] of the East."

Nasciens (variants: Natianis, Vaciano) is shown by the variants to have been pronounced as though the second consonant had the sound *sh*, Nashyens. There is in Arabic a verb which means "to grow up"; a noun from this would be ناشئ *Náshi'un*, meaning "one who is growing up," *i.e.*, a young man. This would be an appropriate name for Seraphe, who was not only a young man, but who was also growing up in the Christian religion.

The name of Evalach has hitherto been equated with Avalloch, the god of the dead in Celtic mythology, with whom the name Avalon is perhaps connected. Though this equation is possibly quite accurate when the Grail legend becomes fused with the Arthurian cycle, yet when the legend is still in its Egyptian form, the derivation of the name must be looked for in Egypt, in either Coptic or Arabic. Here the analogies of the mediaeval forms of Arabic names must be taken into account, and of these the most suggestive are the forms Avicenna from Ibn Sina, and Averroes from Ibn Rushd. It seems then quite justifiable to derive the first part of Evalach from the Arabic *Ibn;* the name might very well be ابن الاخ Ibn al-Akh, "son of the brother"; or, as matrilineal descent continued till the Christian era in Egypt, ابن الاخت Ibn al-Ukht, "son of the sister." Either of these would become Avelach or Evalach in the mediaeval European form. I shall have more to say later, on the connection of this name with Evalach's succession to the throne of Sarras.

The name by which Evalach is known in the later part of the legend is Mordrayns (variant, Mogdanis). The interchange of *r* and *g* suggests the Arabic غ; the prefixed *ma* or *mo* being a participial form common in personal names, *e.g.*, Muhammad. In the variant Mogdanis, the termination *an* is perhaps the termination found in personal epithets or names, such as Raḥmān. I cannot suggest a derivation for the name Mordrayns, or Mogdanis, as the root غدر would give the meaning "treacherous" to the name. This is hardly likely under the circumstances.

Of the minor characters of the story, the giant who killed travellers is called Ferreyn. Here again is an Arabic form فرعون Pharaoh. This use of a title so familiar to us is peculiarly Arabic, the Pharaoh of the Exodus being always so held up to execration as one of the wickedest of men, that the word has come to have the meaning of "Tyrant."

The name of the god Appollin is also worth noting, for it occurs in the Arabic Synaxarium (Hathor 18 and elsewhere) as ابلون Ablūn, a god to whom Christian martyrs were often ordered to sacrifice. Apollo was equated by the Greeks with Horus, and was therefore one of the principal deities worshipped in Egypt. The other idol was inhabited by a devil named Aselebas. The termination *as* as in other names is probably the Latinised masculine ending, and may be ignored. The demon is therefore Aseleb, which suggests the Arabic اَلصّليب Aṣ-ṣalīb, the *l* of the definite article coalescing, as is usual, with the initial *ṣ* of the noun. Aṣ-ṣalīb means "the crucified," and is an epithet not unlikely to be used by non-Christian peoples for a demon. The name of the demon might be anterior to the story, or it might be a generic name given by the popular language to all evil spirits as a pious hope regarding their future fate.

I come now to a name which I approach with a certain amount of diffidence, and that is Joseph of Arimathaea. As regards the "Joseph" there is I think no difficulty, it is the "Arimathaea" which requires explanation. Here again the variants are of great value in the elucidation of this point:—

Arimathaea.	Abaramathie.
Armathy.	Barmathy.
Abarimacie.	Barmacie.

The form with *B* gives an indication of the derivation. As the story derives from Egypt, and the place-names are Egyptian, it is in that country that the name must be sought. The termination in *i* or *y* indicates the *nisba*-form, therefore one

must look for a name beginning with *B* and ending with *th* or *s* (the soft *c* being used instead of *s*). A place-name, which corresponds exactly, is Baramūs, Coptic ⲃⲁⲣⲁⲙⲟⲩⲥ; this was in the Wady Natrūn, and was the site of a celebrated monastery. Yūsufu Baramūsi, or Yūsufu 'l Baramūsi, Joseph the man of Baramūs, would easily become corrupted into Joseph ab Aramacie, or ab Arimathy, the *ab* being taken for the Latin preposition; and without any difficulty the name would pass into that of the well-known personage of the Gospel history, Joseph of Arimathaea. A further proof of this derivation lies in the legend of St. John Kolobos of Baramūs, who, at the command of his Superior, planted his staff and watered it till it put forth leaves and became a thorn tree. It can hardly be a coincidence that two saints, with both of whom the legend of a planted staff is connected, could quite well be called Al-Baramūsī. There is another interesting point as regards the name of Joseph: John of Glastonbury, quoting from the *Book of Melkin*, speaks of "Joseph de marmore, ab Arimathia nomine." The root-meaning of *marmor* is a flat, glistening surface, and is therefore applied to a sheet of water, either a sea or lake, and for the same reason, to marble. The epithet may refer to the fact that Joseph arrived in Great Britain from oversea; but remembering the part which the lake plays in the History of the Grail, and that Lancelot du Lac is, according to some accounts, the direct lineal descendant of Joseph, it seems probable that the word should be rendered "Lake," and the passage would then be translated "Joseph of the Lake, called From Arimathia." This is very important as being the earliest record of his name. It would also agree very well with the Egyptian origin of the legend, as the Lake-province—now called the Fayūm—has been a marked feature, both physically and politically, from the earliest times. The Fayūm also figures largely in Coptic literature as the birthplace of many saints.

One of the most important personal names to be studied is Melkin, which is as yet unexplained. Asser, in his *Life of King Alfred*, speaks of the "pious and erudite men, Gildas, Melkinus, Nennius and Kentigern," but gives no details, though the mention of him shows that Melkin was well known as an author in the ninth century. The *Book of Melkin*, however, is known only from the quotation in John of Glastonbury, and was presumably a manuscript in the library of Glastonbury Abbey. Many conjectures have been made as to the personality of Melkin; the only indications given are: "A certain priest [Soothsayer] of the Britons, named Melkin," and "This writing is found in the *Book of Melkin* who was before Merlin." The last sentence introduces the vexed question as to the date of Merlin, but with the Arthurian cycle our legend seems to have little or nothing to do. No satisfactory explanation of the name Melkinus has yet been offered. The Latin termination may of course be disregarded, but the Latin form preserves the long vowel in the second syllable. If then the name is pronounced Melkīn, the Arabic origin is at once discernible. The word is obviously ملكيين *milkiyyīn* or *malakiyyīn*, the genitive plural of ملكيّ, an adjective derived from ملك "a king"; it can therefore be translated King's men, Royalists, Melkites. This opens up the question, which I do not propose to discuss, as to whether the manuscript took its name from that section of the Coptic Church which held the political power before the Arab conquest, or whether it refers to King Evalach's followers. One thing, however, is certain and that is, that although the word survived to the time of John of Glastonbury (*circa* 1400), the meaning was lost and كتاب الملكيين Kitābu 'l-Milkiyyīn became Liber Melkini, the *Book of Melkin*.

Wolfram von Eschenbach states in so many words that the legend which he followed was originally written in Arabic, the manuscript being at Toledo:

> "For Kiot of old, the master, whom men spake of in days of yore,
> Far off in Toledo's city, found in Arabic writ the lore
> By men cast aside and forgotten, the tale of the wondrous Grail.
> But first must he learn the letters, nor black art might there avail.
> By the grace of baptismal waters, by the light of our Holy Faith,
> He read the tale . . .
> 'Twas a heathen, Flegetanis, who had won for his wisdom fame,
> And saw many a wondrous vision (from Israel's race he came,
> And the blood of the kings of old-time, of Solomon did he share,)
> He wrote in the days long vanished . . .
> Then Kiot my master read this, the tale Flegetanis told."—(Bk. IX, ll. 351–379, transl. WESTON, *Parzival*, II, p. 262, ed. 1894).

This seems to show that the Grail Legend was in its origin Eastern, and was introduced into Europe in Arabic manuscripts; into Spain by Flegetanis, into England by the *Book of Melkin*. In both cases the date of the manuscript must have been after the Mahomedan conquests of Syria and Egypt in the middle of the seventh century. There is no matter for surprise in finding the record of an Arabic manuscript at Toledo in the time of Wolfram's predecessor, as that city was regained from the Moors by the Christians towards the close of the eleventh century; the really surprising thing is that such a manuscript should contain a legend which we are accustomed to regard as essentially Christian, or essentially Celtic.

In the quotation from the *Book of Melkin*, given by John of Glastonbury, mention is made of "Abbadare, ruler in Saphat, noblest of the pagans," who is buried at Glastonbury with 104,000 of his soldiers. Here again is another suggestion of the Egyptian origin of the names. Abbadare might well be ابو الدّار Abu 'd-dār, "Lord or Master of the City," or ابو الدير Abu 'd-Dayr, "Father of the Monastery." Neither of these are known names, but they are analogous to the phrase ابو المثوى. Saft is so common a place-name in Egypt that, like Kūm, it must be defined by an epithet before it can be identified. If, however, a king of Saft came to England with a band of followers, and was buried with them at Glastonbury, we may very well see in him the original of Mordrayns, also a king in Egypt, who came with his army to Britain. Mordrayns founded, in the land of his adoption, a monastery in which he was buried; Abbadare, if we take the form Abu 'd-Dayr as the origin of the name, must also have been the founder of a monastery, and we have the definite statement that he was buried within the precincts of Glastonbury Abbey.

M. A. MURRAY.

(*To be continued.*)

FRENCH AND ITALIAN EGYPTOLOGY.

SINCE Sir Gaston Maspero was appointed as "Secrétaire Perpétuel" of L'Academie des Inscriptions et Belles-Lettres, the number of papers published in the *Comptes Rendus* upon Egyptological subjects has increased. Moreover, as Sir Gaston is practically the editor, it may be relied upon that the statements in the articles, and the translations of inscriptions, or papyri, have his sanction as being accurate.

The following review of the important Egyptological essays gives the most interesting and valuable researches set forth by their authors. M. Moret describes "A List of the Nomes of Upper Egypt," publishing one of the surprisingly early era of the VIIIth dynasty. This is a most necessary document for the geography of ancient Egypt, because previously the enumeration of the Southern Nomes had to be, as far as possible, made up from imperfect lists of them upon various defaced temple inscriptions, or casual allusions to them in biographical texts. It is true that lists of them, in Ptolemaic times, were to be found at Edfu and at Denderah, but then there was no certainty that these were identical with the nome names of more than 2,000 years earlier, or that in early times their number was 22. The inscription M. Moret edits is of a functionary named Shemăa who flourished under Neferkahor or his predecessor. He was governor of Southern Egypt, and in his honorary inscription appointing him governor, enumerates the nomes which came under his jurisdiction. He held several religious dignities as well.

M. Moret gives the Nome list as follows:—

1. Ta sti (Nubia or Elephantine). 2. Utes-Hor (Apollinopolis Magna. Edfu). 3. The Two Plumes (Nekhen. Eileithyapolis). 4. Uast, The Sceptre (Thebes). 5. The Two Falcons (Koptos). 6. Ad, The Crocodile (Denderah). 7. Seshesht, The Sistrum (Diospolis Parva). 8. Debt, The Shrine (Abydos. Thinis). 9. Min (Panopolis. Akmin). 10. Uazet, The Serpent (Aphroditopolis). 11. Set (Hypselis). 12. Du-aft, The Serpent Mountain (Hierakonpolis). 13. The Terebinth, Atf khenti (Lycopolis). 14. The Lower Terebinth, Atf pehut (Cusae). 15. Un, The Hare (Hermopolis). 16. Ma-hez, The Gazelle (Hibu). 17. Anpu, The Dog (Cynopolis). 18. Sep, The Bird (Hipponos). 19. Uabu, The Sceptre (Oxyrhynchos). 20. Nâr khenti, The Upper Rose Figtree (Heracleopolis). 21. Nâr pehut, The Lower Rose Figtree (Nilopolis). 22. The Knife, Demat (The Northern Aphroditopolis).

M. Moret adds some remarks upon the functions and office of the governor of Upper Egypt, pointing out by means of another inscription of about the same date, found at Coptos, that the Pharaohs appear to have provided another high official as a sort of superior over these southern viceroys, because they were so powerful that they often aspired to the throne. In fact, at the end of the VIIIth dynasty, the epoch of Shemăa's viziership, the Memphite race of Pharaohs was supplanted by a number of petty princes, of whom the chief families of Upper Egypt took the first rank. It may be noted that in this text there is no indication of Elephantine being the elephant nome, although Prof. Newberry thinks he has found that animal as a nome crest. Also, at the early period of the record, the nome

emblems do not consist more of animal effigies than in later times, so that the idea that all the nome signs were originally totems is not strengthened by the newly found inscription.

The hieroglyph for the Seventh Nome, whose deity was Hathor, in Shemăa's text is not a sistrum but the cow-head of the goddess, as it is in the Pyramid Texts.

It is now nearly five years since it was notified that the Cairo Museum had been enriched by the addition of several newly found fragments of the famous "Stele of Palermo." In the *Comptes Rendus* for last July M. Henri Gautier gives an account of these, with four sketches showing how much new material there is in comparison with the piece long preserved in Sicily. From this it is evident that quite as many lines of the inscription are still unpublished as were to be found upon the Palermo piece.

M. Gautier announces that he is editing the new texts in that most expensive of French Egyptological works the *Musée Egyptien.*

One of the newly discovered fragments is of a thicker piece of stone than the others, though certainly its inscription forms part of the same record of early annals. M. Gautier concludes from this that there were at least two monumental inscriptions, duplicates of each other. If so, the possibility of finding further portions of text is much increased.

In the *Comptes Rendus* for October, M. Moret writes another article affording much new light upon the subject of the bequeathing to descendants of estates, or emoluments, derivable from the royal bounty. The title for the remarks is, "Une Nouvelle Disposition Testamentaire de l'Ancien Empire Egyptien," and is founded upon an inscription discovered in the Necropolis at Gizeh, dating from the IVth dynasty.

Although of such high antiquity, the text is quite a lengthy one, and without lacunae. M. Moret is particularly prepared for explaining a deed of this description, because of his researches made in order to produce his work upon *Donations et Fondations* in Ancient Egypt.

In the present case a certain personage of position named Thenta, whose mother's name was Bebi, enjoyed, as inheritance from the said parent, two valuable donations from the Pharaoh. The first of these was a salary, or gift, from the "King's house," in the shape of grain and vestments. The second consisted of two "fields of offerings," that is to say, two pieces of land belonging to some temple and therefore sacred soil, or fields forming part of land assigned for the purpose of producing crops, or nourishing animals reserved for the sacrificial Pharaonic worship. In either case they would be surplus ground not needed for the object they were first reserved for, and so the king could hypothecate them for the benefit of some official or courtier.

The revenue in kind from the palace, as also the plots of land, had been bequeathed by Bebi to her son and heir, but subject to a charge to keep up her ancestral worship, that is to say, the annual or more frequent ritual ceremonies at her tomb. She had enjoyed the royal remuneration because she was a member of a special grade in the court hierarchy called *neb-amakhu ;* a title also meaning that its bearer was an initiate into some of the more esoteric secrets of theology. The lady could endow her son with the same emoluments because he also had become, either by devotion and service, or perhaps by hereditary right, a *neb-amakhu* himself.

The Gizeh inscription, however, is not the deed of benefaction from mother to son, but the act of Thenta setting forth his disposition to his beneficiaries of the

properties held, always, it must be borne in mind subject to the Pharaoh's good will. Thenta, in this will, or testament, divides the royal rent of cereals and clothing material, or it may be completed garments, into moieties, one for his spouse Tepemnefert, who could rightfully enjoy them because she also was *neb-amakhu*, the other to his brother Kemnefert, who was *hen-ka*, or professional priest of funerary worship.

This division of the annual payment from the palace was to assure the perpetual performance of the tomb ritual for Thenta and his revered mother Bebi. Thenta could have left the whole of it to his wife, and thus constituted her a *hen-ka* for his and his mother's grave-worship, but probably she was not well versed in the elaborate ritual of the Opening of the Mouth, and the meticulous preparation and serving of the mummy's offerings, and so Kemnefert, a practised hierophant in their ceremonial, was seized of the services.

The two fields, or rather their produce, were also assigned to the same couple; one to the good wife Tepemnefert, and the value annually derived from it was also to be expended for ancestor worship of Bebi and Thenta. Again, in this case, she was not personally to act as priestess, but was adjured to pay part of the annual product value to four *henu-ka*, who also were to receive three sacks of grain per annum, and some payment sufficing to provide incense or oblations for the services.

The value of the other plot went to the brother Kemnefert, also to repay him for carrying out duly the tomb services. That it might always adequately suffice for this purpose he was expressly forbidden to dispose of any portion of the annual income to anyone else. That is to say, he must not assign part of it for his own sepulchral cult, but it must ever be employed to keep up the worships for Bebi and Thenta. It is to be noticed that the wife is not so directed; but the wording of the deed in her case infers that she may use the remaining surplus for her own benefit, after giving certain salaries as specified to the four *henu-ka*.

Compared with previously known settlements of this character, this deed affords two novelties. Before, these funerary foundations had either been bequeathed to the family of the testator, who for the due carrying of them out became *henu-ka*, or funerary priests, or else they had been assigned to a professional *hen-ka*.

In this case the wife and brother receive part and the priests another portion under the same testamentary disposition.

Thenta's act of settlement also is singular in that he seems to have had no offspring or adopted children, hence the duties of funerary ritual are handed over to his wife and brother, secured by gifts of funds adequate for their performance.

Another essay, by M. Hippolyte Boussac, is written to prove the worship, in the first century of our era in Southern Italy, not only of Isis, but also the goddess Bast. He shows this by means of inscriptions from various parts of Italy, and refers also to one found at Scarbanica in ancient Pannonia, near the Danube. The Italian records often erroneously style the goddess Bubastis, using the name of the Egyptian city most celebrated for her cult. From Pompeii, M. Boussac produces a painting showing the figure of a priest of Egyptian style chanting from a papyrus text. He stands in front of a high pedestal, upon the summit of which is a cat, bearing the "Meh" symbol of Lower Egypt on its head. One of the inscriptions discovered at Nemi, enumerates robes and apparel presented to the goddess Bubastis, probably for adorning her statue.

At the October session of the Academy, M. Seymour de Ricci explained a Latin papyrus at Berlin, which formerly belonged to Brugsch Pasha. It is a last

will and testament of a certain M. Lucretius Clemens, and the date of the document corresponds to A.D. 131. For the first time, it affords us a Latin specimen of a will, *per aes et libram*, as fully described by Gaius. A Greek translation of a similar will, that of Gaius Longinus Castor, is to be found in the Berlin *Griech. Urkunden* No. 326.

M. Seymour de Ricci's rendering of the very much defaced writing will be of great interest to students of Roman law, as supplementing the material of the same origin given in M. Paul Fréderic Gerard's *Textes de Droit Romain*, Paris, 1913.

The following Latin inscription, which was discovered about two years ago, at Ventimiglia on the Italian Riviera, is published in the *Notizie degli Scavi*, 1914, Pt. II. It recounts the career of an officer and official named Bassus, who had been Epistrategus of two of the three Egyptian provinces :—

> *M(arci) filius Fal(erna) Bassus praefectus cohortis primae Antiochensium. Praefectus cohortis primae Brittonum ; praefectus alae Moesicae. Procurator imperatoris Caesaris Traiani Hadriani Augusti, ad quadragesimam Galliarum ; item ad censum agendum Ponto Bithyniae, epistratego Pelusio, item Thebaidis. Procurator provinciae Judaeae, testamento poni iussit.*

It will be noticed that the gentilicum of Bassus is absent, which is because it has become effaced from the stone, and so is unknown ; but many years ago a seal was found, also at Ventimiglia, bearing the name Aemilius Bassus. The biographical details in this inscription show that the career of the Bassus it commemorates was contemporary with most of the reign of Hadrian, which lasted from A.D. 117 to 138.

Two papyri that have been published from Oxyrhynchus mention an Epistrategus named Bassus. One is numbered in the collection of papyri from that site 726, and concerns Gellius Bassus. The other is No. 237, which is the famous Petition of Dionysia, and gives the title "Bassus" only. The first papyrus text is dated by the editors as A.D. 135, and they say that the mention of Bassus in the other manuscript concerns the year A.D. 128. As these papyri come from the Fayoum, it is probable that the Bassus and Gellius Bassus who appears in them was an Epistrategus of the Heptanomis, or seven-nomed central province; but some matters connected with the protracted litigation of Dionysia may have been connected with or conducted in other parts of Egypt. However, before A.D. 137, the Bassus of the Ventimiglia record was Procurator of Judea.

Two inscriptions revealed by the recent Italian excavations at Ostia refer to Egyptian prefects. One of these concerns M. Bassaeus Rufus, who also held the pretorian prefecture under Aurelius, L. Verus, and Commodus. The other name is that of Petronius Onoratus (or Honoratus), whose term of office in Egypt was A.D. 147 and 148. He is mentioned upon a wooden tablet in the Bodleian Library, as well as in published papyri.

The whole question of the Epistrateges is fully treated of, as far as papyri and inscriptions had provided documents concerning them up to 1911, by M. Victor Martin of Geneva, in a work entitled *Les Epistrateges*, published at Geneva in that year.

Another memorial of a Roman Egyptian official may be added here. It was first published by Mr. W. M. Calder, in the *Journal of Hellenic Studies* for 1913.

The Proculus it concerns was Juridicus Alexandriae et Aegypti.

SER · PROCVLO
II · VIR · AVGuri · TRIBunus
MILitum LEGio III CYRE
NAICA · IVRIDICO · A⌐E
XANDREAE · ET · AE
GYPTI · PROCurator
NERONis claVDI
CAesaris AVG GER
MAnici proVIN
CIAE cappaDOCI
AE · ET · CILICIAE
ALA AVG GERMANICA
Honoris · Causa.

In the *Bulletin de L'Institut Egyptien* for 1914, M. R. Fourtan, in a paper entitled "La Côte de la Marmarique d'après les anciens Geographes Grecs," gives the result of his travels along the North African Coast, west of Alexandria, as to the identification of the sites upon the shore given in the *Periplus* of Scylax, and the fragments in the *Geographi Graeci Minores* of C. Muller.

Muller took for his topographical guide a British Admiralty Chart which was somewhat imperfect and was being succeeded by a new one embodying a more precise survey. His identifications are therefore liable to correction, and this has in some cases been carried out by M. Fourtan, who supplies a map of the coast giving all the modern Arabic names, adding those provided by Greek geographers. He is unable to fix the port of the ancient Egyptian city of Apis, but considers the temple to have been at the site of the Qasr, near Ras Oum Rokhan, west of Marsa Matrouh.

Since the decease of M. Eugene Revillout, who may be said to have been the only demotic *savant* in France, the continental publication of texts in that difficult script has been almost entirely left to Prof. Spiegelberg. Last year, however, M. Henri Sottas, in the *Journal Asiatique* (1914, pp. 141–174), commenced the editing and translation of some of the more legible demotic documents at Lille, and reproduced two of these in heliogravure; a fortunate proceeding, for after the Germans have dealt with that city, it is very improbable that any of the papyrus collection there will be spared for investigation.

In a modest preface M. Sottas disclaims any pretension of being a demotic expert, having only devoted a few months specially to that branch of Egyptology. But his notes show he is fully acquainted with the work of previous students, and his essay of more than thirty pages renders clear much of the contents of the manuscripts he describes, and incidentally illuminates several matters connected with Ptolemaic administration.

The texts, which are of legal character, are engrossed upon frail papyri, and are really duplicate deeds, something after the manner of Assyrian record tablets, or Latin military diplomas, having been written in duplicate upon the same piece of papyrus. The strip was then folded so that one copy of the text was inside, and thus protected from damage, whilst the shorter recension, or summarised copy, was readable without disturbing the document by unfolding it. Moreover, these and similar deeds were pierced by a small hole, through which a cord was passed, preventing the record being unfolded.

The deeds concern the giving of bail for a person who, unable to pay a loan or rent he had incurred, had become partly and temporarily the slave of his

creditor. To recover his freedom for a short period the debtor got a friend, or an official, who for a consideration would act as baillee, to be surety for him. The personages concerned appear to have been, some of them, in the semi-military police, others warders in a prison, and military agriculturalists, a class of settlers in Middle Egypt quite numerous in Ptolemaic times. In the case of native Egyptians they had already adopted Greek names in the time of Euergetes I, 245 B.C.

The texts illustrate the Greek titles of various officials, and the division of the Fayoum into three districts (or Merides), one of which, Themistes, is that in which the transactions recorded took place at the town of Sobek-Arsinoe.

The precise circumstances which produced these deeds are not quite clear to M. Sottas, who gives five different views as to what the situation of the personage obtaining surety really was. The first of these is the one suggested above.

The eighteenth volume of the *Sphinx* contains a series of articles more suitable for Egyptologists than for the general reader. It contains the last essays written by the late M. Amélineau; one of these, upon "Orthographe et Grammaire Coptes," is a little treatise. He also reviews "The Sermon upon Penitence attributed to St. Cyril of Alexandria," published by Père M. Chaîne, in Vol. 6 of the *Mélanges de la Faculté Orientale*, of St. Joseph's University at Beyrouth.

This sermon of St. Cyril, M. Amélineau proves to be a forgery, like so much Coptic Christian literature. As illustrating the vagaries of Coptic authors, he shows that the alleged letter of Pope Liberius to the Alexandrian clerics concerning the death of Athanasius is an impudent fraud, because the pope died seven years before the Saint. In the *Revue de l'Histoire des Religions* M. Amélineau has illustrated how Coptic Martyrologies are merely copies of one another, and quite unworthy of editorship.

M. Daressy reviews M. Henri Gautier's *Geography of the Tenth Nome of Upper Egypt*, correcting several of his conclusions. The matter, in Roman times, is rather complicated, because this nome was divided into three districts: Aphroditopolite, Antaeopolite and Apollonopolite; the old Egyptian titles for these subdivisions are unknown, if, indeed, they were recognised as in any sense separate in the Greek era, when the whole nome was called Aphroditopolite. M. Daressy utilises texts upon some coffins recently published by M. Lefébvre, showing how inscriptions, apparently of little value for historical or geographical purposes, yet are often very useful.

An interesting article by M. Autran concerns *La Morale des Egyptiens, à propos d'un Livre recent de M. Baillet.* M. Autran states that the last six of the Jewish Ten Commandments are identical with maxims for the conduct of a good man in the many versions of the so-called Negative Confession in the funerary inscriptions. Moreover, long before the time of Moses, the Egyptian precept of morality had preached a good will and human kindness more resembling the ideas of the New Testament than those of the old.

To have behaved as a husband to the widow; as a father to the little and the feeble; as an asylum for the orphan, and given clothes to those who were naked, is the boast of hundreds of Egyptians in these memoirs in the tombs. They doubtless often exaggerated their good deeds, but that they admitted they ought to have carried out such conduct is an interesting fact in the history of civilisation.

Alexandrea ad Ægyptum is the title of the excellent guide which Dr. Breccia, Director of the Alexandria Museum, has prepared for the Municipality of that city as a description of the town, its museum, and antiquities.

In addition to the review in the last number, we may note that among many Greek inscriptions stored there, are several referring to Jewish residents. Also the famous military diploma, written upon wooden tablets, granting the rights appertaining to a veteran, to C. Valerius Quadratus, who had served at the Siege of Jerusalem.

Among the Greek papyri are eleven lines of Callimachus' fourth Delian Ode. Although the relics of Pharaonic Egypt are mostly kept at Cairo, the Alexandria Museum possesses a good many, including reliefs and sculptures from Dr. Breccia's recent excavations at the temple of the Crocodile-god Pnepheros, in the Fayoum. But the chief contents of the Museum are its Graeco-Roman Antiquities, including coins, in which the Collection is very rich. Among the sculptures is a colossal statue of Marcus Aurelius, and a masterly bust of a Roman lady. The statuettes and figurines are very numerous, and many of them are fine specimens. The vases also are well worthy of a visit, many of them being provided with a floral wreath in metal work, once gilded. The finest of the sarcophagi represents Ariadne in Naxos. Dr. Breccia reproduces one of the Roman mummy portraits and some of the Tanagra-style statuettes in colours, and also many of the most beautiful specimens of the coins.

The Guide contains detailed descriptions of the Great Catacombs at Kom-el-Shugafa and Anfouchy, and will enable any visitor interested in ancient civilisation and art to pass a very pleasant and profitable fortnight at Alexandria.

JOSEPH OFFORD.

THE GRENFELL COLLECTION OF SCARABS.

THE collection described and illustrated here was formed by the Rt. Hon. Field-Marshal Lord Grenfell, while commanding in Egypt. The photographs, 1 to 102, illustrate his scarabs; and the drawings, 111–146, are from examples in other collections which serve to explain these.

The following remarks will be useful in the intepretation of New Kingdom scarabs :—

1. The verb is generally left out, especially with wish- or prayer-scarabs. Sometimes a "key" scarab, such as 130, supplies the missing word or words.
2. There is also a frequent omission of alphabetical hieroglyphs, syllabics, determinatives of proper names and most grammatical endings, either from want of room, or because the Egyptians were so familiar with the legends that the merest suggestion of them was enough to make them plain.
3. The signs may be reversed, or placed sideways, or doubled, to make them balance better.
4. The deceased is figured under various symbols. Those used on the scarabs mentioned in this article are :

   (i) *nofer*, see 113 and 55. (See plates at end of article.)

   (ii) , "revered person," 128.

   (iii) , Horus-bird with Ra-sign and uraeus from the foot (often omitted), "glorified one," 26, 137.

   (iv) *neter* (uncommon, 138).

   (v) *hes*, 139.

   (vi) variant, *hes*, 87.

   All these symbols are found on other antiquities; in the Abbott Papyrus in combination with ; on the marble amulet at Leiden Museum; in the Ani Papyrus; on the Ptolemaic sarcophagus of Pa-nehem-Isis.

   (vii) , , in its two forms, *amakh*, 94 and 96, is generally, not always, used of a deceased person.

"Hypotheses are nets; only he who throws them will catch anything."

In enumerating the contents of a whole collection of a hundred or more scarabs, several will be found uninteresting and unimportant; a few illegible; some incomprehensible, even if their signs can be read. They are often beautifully cut with meanders, scrolls, volutes and other spirals of different kinds, all of which doubtless had originally a symbolic meaning, now lost.

There seems some evidence to prove that the double spiral (111) and the single spiral signify "life." In an article on the Scarabs of Queen's College, Oxford, in the *Journal of Egyptian Archaeology* for October, 1915, I figured nine double spiral scarabs, 20–28. I then thought the double spiral was an amulet, since it is so frequently used—as other spirals are not—with the symbols for the dead. But on Scarab 111, Fitzwilliam Museum, "*Ra, the golden One, Lord of Life*," and on 112, Mond Collection, the double and the single spiral seem to be substituted for ☥ and to interchange with it. So it is possible that these spirals mean "life." We also find the substitution on Scarab 113, being the same in meaning as the original and much commoner design 114, both in the Blanchard Collection, "*May Isis* (*give*) *a good life.*"

On 112 the spiral ends in a lotus bud, the well-known symbol for the "New Life."

On 113 the two spirals have a lotus flower between them, with the same signification. See also 28, which may mean "*Establish* (*his, deceased's*) *life.*" The double spiral appears on the skirt of a Hittite Amazon, see *P.S.B.A.*, Vol. XXXII, 1910.

That the fish means Isis there is ample evidence. We find Isis as a fish associated on scarabs with Bast, Neith and Serq, as we should expect. With Serq as a scorpion she is found on a scarab (115) in the British Museum, "*May Isis and Serq watch over and love the lion of Thebes*," = the king.

The remarkable bronze fish on a sledge now at Cairo Museum, 116 (*Cemeteries of Abydos*, II, xxxix), is a symbol of Isis, having the horns, disk and uraeus as worn by her. Berlin Museum has a similar fish. Compare this fish with the head of a figurine of Isis (117) belonging to Mr. Blanchard. But most remarkable of all is the decoration on an anthropoid coffin of Roman date (118), found by M. Smolenski at Gamhoud, and published by Ahmet Bey Kamal in the *Annales du Service des Antiquités de l'Égypte*, IX, 1908. It represents a mummy laid out on a bier and an oxyrhynchus fish hovering over it, replacing the usual Ba-bird. I am not aware of the fish ever symbolising the soul. This fish is probably Isis. Her worship was spread over the civilised world at the date of this coffin.

The fish was the earliest symbol used for Christ. There seems to have been a mingling of pagan and Christian symbols at first, and no reluctance was shown to use a pagan setting. Christ is called "The scarabaeus of God." There were also Christian mummies.

The fish sometimes is an emblem of fertility.

The feathering of the legs of the beetle, 10 (photograph), is not later than the XIIIth dynasty. 11 to 15 are of the XVth dynasty. The Hyksos formula Ra-n-Ra, "*Ra proceeding from Ra*," is shown on 13, 14, 15. This formula is repeated occasionally on scarabs of a later date, see 33 and 46, of the XIXth dynasty. There is an almost similar scarab to 46 in the Bootle Museum, and also one in the Athens Museum, but these two latter have not got the curious object seen at the top and bottom of 46.

Of royal scarabs of the XVIIIth dynasty, 16 is Aahmes I, first king of that dynasty, "*Neb-pehti-Ra, ruler of Egypt*"; 17 is "*The Royal Wife Nefertari*," his queen. Her scarabs are common.

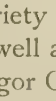
18 is Thothmes I (?) as a lion over a captive.

19, 20, 21, 22 are some of the common Men-kheper-Ra (Thothmes III) scarabs, the largest class of all, and the most uninteresting.

23 is Amenhetep II, Aa-kheperu-Ra.

24 and 25 may be called "circling scarabs." Both are rather faulty specimens. The design is more carefully given on 119 (at Alnwick Castle) "*Let not the heart (of deceased) be destroyed by the judge, but may he circle round the temple of Amen Ra.*" The heart was considered the part of a man which sinned, therefore judgment was passed on it. The hieroglyph for "judge" is , *ap*, the two horns, used here with the determinative of a seated figure. Thoth is called *ap rehui*, , "*the judge of the Rehui*" (Horus and Set). *hetem*, "to destroy," is an uncommon hieroglyph of a bird with a drooping head and a very long neck. It is not given in the sign-lists of the Grammars of Erman, Brugsch and Farina, but it is given in those of Loret and Budge. The latter part of 24 and 25 is clear enough. Dr. Budge in *The Liturgy of Funerary Offerings*, 1909, writes: "It is known from many texts that souls (*kau*) journeyed from one great sanctuary to another in Egypt, and that they assisted at all the great national festivals, and expected to receive their due share of the offerings which were brought to the altars."

A second variety of circling scarabs is 120 in the Blanchard Collection, which figures the *ka* as well as the *ab* "circling round."

The MacGregor Collection has a third variety, 121, "*In his worship may he circle round the roads of Bubastis.*" [The ape is a symbol of worship.] There is yet a fourth kind of circling scarab, 122 (British Museum), which has the word  , *kedi*, "go round in a circle," with the two legs for a determinative. "*May Amen Ra the lord, king of the gods, arrive, and circle round (the heavens) and make the breath (of life) for those above (the earth).*" Circling scarabs are all rare except the first variety.

26 is a plaque of Serq with the determinative of a goddess. Apparently she is protecting a Glorified One, though the Ra-sign and the uraeus from the bird's foot do not appear. But so much is not written out on scarabs, which was too familiar to the Egyptians to need repetition, that it makes many puzzles for us who are not so well equipped. The reverse of this plaque has two scorpions. Serq is frequently doubled, probably to fill up the space. On Scarab 123 (Liverpool Museum) she is guarding the king, figured as a lion. On 124 (Eton College) she is found with Isis figured as a fish. I have already alluded to Serq's appearance on Scarab 115.

29 is the usual pattern having its origin in the head of Hat-hor, which is common on scarabs.

XIXth dynasty. 36, the king offering to Ptah in a shrine, and 37, the king adoring Amen who is under the form of an obelisk, are adoration scarabs, of which there are a large number. Above the obelisk on 37 is written one of the ancient titles of the Almighty (plural omitted) "*Lord of Lords*," repeated even now by millions of persons week after week in the Anglican prayer for the reigning Sovereign. Several such Egyptian expressions, incorporated into the Bible, masquerade as belonging to Hebrew literature when they do not, but are merely copied into it. On the hypocephalus amulet of a lady, Ta-tu, we find: "*O Amen of Amens who art in heaven above* (compare the beginning of the Lord's Prayer) . . . . . *turn thy face towards the body of thy daughter, the august Osiris, who is in the funeral region, Ta-tu, deceased.*" On the base of the great Karnak obelisk, Queen Hatshepsut calls herself "*the form of forms.*"

38 is the king (or Amen) as a sphinx, guarding *hes* (deceased) [ruling] over North and South Egypt, which country is symbolised by a lotus and a papyrus plant.

40 is "*May Ptah, Lord of the beautiful face, give strength . . . . . .*" , *her*, is used here in its original meaning of "face," though it is more common as a preposition. On a plaque in the British Museum (125) we read: "*Ptah of beautiful face.*" or sometimes means the god Hor, or Horus, as in 136. It is a very common ingredient in private names, as Hor-du, Hor-y, Hor-men, etc.

41, "*Ra the only strength,*" is a boat scarab. Several of these are common, and form a large class of thirty or more varieties.

42, "*Ra stands firm; Do not fear.*"

43, 44, 45, are scarabs representing Thoth as a cynocephalous ape. On 43 he is in company with Khonsu guarding . On 44 and 45 he is "Lord of Maat," that is of the life of the *Au-delà*, which by his magic words, ceremonies, etc., he brings about for the deceased.

XXVth dynasty. 79, both in photographs and drawings, has Thoth as an ibis. This ibis resembles the gnostic form of Thoth figured with the caduceus of Hermes, 126 (Biella Museum).

48 is an interesting "*Fluttering Power*" scarab; "*May Ra (give)* □ *this (man) the fluttering power, to wander unceasingly over his domain in the next world,*" as described in the inscription on the stele of Nekht-Amsu, or Nekht-Min, see Dr. Budge's *Egyptian Reading-Book*, 1906. A most remarkable and unique scarab, published by Prof. Newberry on Pl. XL, 31, in *Scarabs*, 1909, has this inscription, slightly shortened, on it. I have noticed this scarab in an article in the *Recueil*, Vol. XXX, 1908, "Amuletic Scarabs for the Deceased," and figured it with five other rare fluttering power scarabs. One of the commoner varieties is 127, "*May Horus (give) him the fluttering power like . . . . . .*" word omitted.

Prof. Sethe has given the clue to the meaning of the high white crown , *hez*, of Upper Egypt on some of these scarabs in the *Report on Some Excavations in the Theban Necropolis*, 1908, in the chapter supplied by him "Die aenigmatischen Inschriften." In this report the text of a Hymn to Amen is published, written in this enigmatic script, where is given as the equivalent of , absolute pronoun, 3rd pers. sing., "he" or "him." As Osiris nearly always wears this crown, and the beatified deceased became an Osiris at death, it seems a very suitable hieroglyph to choose for him.

On a scarab (128) in the John Ward Collection, instead of , the deceased is figured as a revered person seated.

A fourth variety (Louvre Museum) is 129, "*May there be (for deceased) the fluttering power like . . . . . .*" The word after is elided in these last three examples, see the remarks in Brugsch's *Grammar*, p. 105, under : "After this word the elision of a noun is a general rule in all phrases of reciprocal comparison." Therefore we must supply a noun, and here it is "gods," "*may there be the fluttering power (for deceased) like the gods.*"

In fact, there is a "key" scarab (130) in the Catalogue of the Fraser Collection, 1900, slightly broken, but not enough to make the design illegible, which, fully written out, runs: "*May he be provided with the fluttering power like the gods.*"

A scarab (131) in the Mond Collection has the *hez* sign used in the same way: "*May he* (*deceased*) *see Ra.*" The same signs arranged differently are found on a scarab, 132 (drawing), formerly in the Meux Collection. To "*see Ra*" was one of the rewards of the righteous, and as man's psychic nature remains the same through the ages, Tennyson, in his last poem, "Crossing the Bar," has the same wish.

The Grenfell Collection includes three Ta-urt, or Thoueris scarabs, 49, 63, 64—the two latter XXVth dynasty—and a Thoueris plaque, 93, XXVIth dynasty. The fourth Thoueris scarab, 133 and 49 (copied among the scarabs drawn, as it is so indistinct), shows a lotus symbolic of *onkh*, instead of the more usual , *sa onkh*, "*fluid of life*," so frequently prayed for on scarabs by deceased. Thoueris has a knife in her hand on 63, 64, and on 133, to cut down the enemies of the deceased. On a beautifully incised scarab in Queen's College, Oxford, she has a second knife tied on to her foot.

The lotus used for also appears on scarab 134 in Stuttgart Museum, "*May there be* (*for deceased*) *life with Thoth!*" A verb is suppressed on Scarab 135, "*May Thoth* (*give*) *life with Ra!*" The verb is given on 136, "*May Horus give him life*" (Grant Bey Collection).

54 is a chariot scarab. The horse is better shaped than usual.

55 is a *nofer* protected by six concentric amuletic rings. 56 is of the Apis signs type of scarab, though it is a contracted example not giving all the signs. Vienna Museum and Queen's College, Oxford, have the perfect set, namely, a winged disk, a hawk with outspread wings, and a beetle with expanded wings, here evidently referring to the flight of the soul after death.

59 is a "transformation" scarab, "*May there be transformations* (*for deceased*)." M. Naville mentions the transformations, in *La Litanie du Soleil.* An analogous scarab (137) in the Hood Collection has "*May the glorified* (*have*) *transformations.*" Liverpool Museum has a scarab, 138 (drawing), "*May Ra give deceased transformations.*" It has the rare expression for deceased, , found in the Papyrus of Ani, and on a few other scarabs. The British Museum has a plaque (139), "*May some goddess* (*?*) *give transformations to deceased.*" The latter is figured under the sign. The two dots represent the plural, usually suppressed. The middle dot is omitted as it would interfere with the sign; and an absolute rule on scarabs is that no sign should ever touch another sign. This makes for clearness very decidedly. Of course there are a few composite signs to which this rule does not apply, but they are rare.

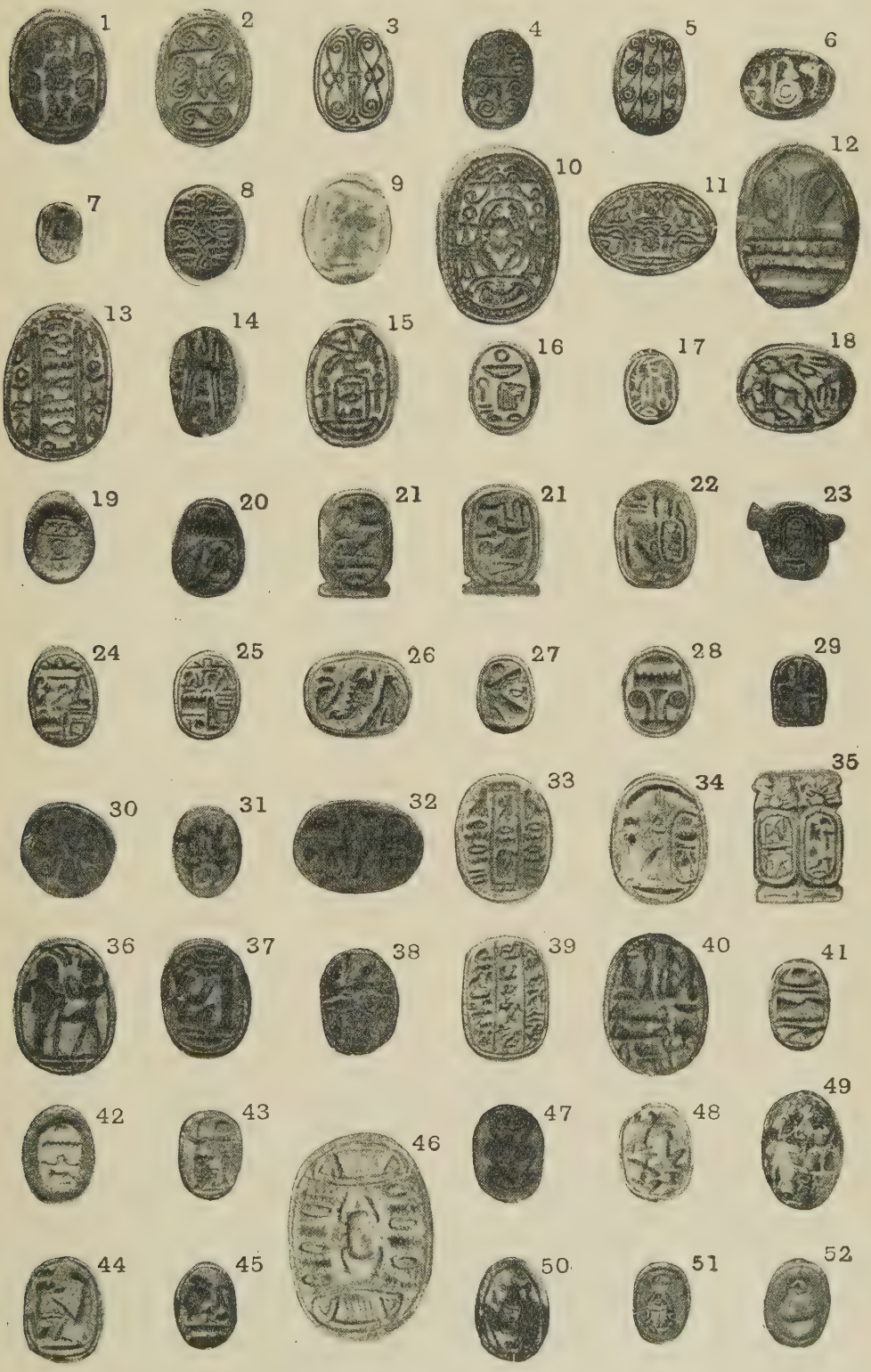
60 has a tied lotus: an unexplained amulet (?).

65, XXVth dynasty, has a Bennu-bird, flanked by two uraei. The remarkable point is that the uraei are not heraldically placed as usual. This peculiarity also occurs on a scarab (140) formerly in the Hilton Price Collection, where the name "Unn" is written. Whether 65 is a name "Bennu," I could not say. The Egyptians frequently gave theophorous names to their children, but I have not come across Bennu as a personal name.

68 (plaque) and 69 (scarab) have the usual arrangement of Bes worshipped by apes. 70 has Bes grasping serpents, also a well-known design.

71 shows a man holding out two goats.

75 has "*May Bast give good things.*"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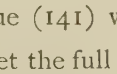
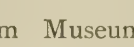
The Grenfell Collection has a few private persons' names, besides the possible one, 65. 81 is a private name, Sebek-sa. Lieblein gives an example from a stele at Vienna.

84 is the well-known scarab of "*Prince Pa-ma* (*the lion*), *hereditary mayor, priest of Osiris, lord of Dedu.*"

89 is the scarab of a "*suten-rekh, royal relative, Pa-fet-pet, deceased.*" Lieblein gives a somewhat similar name, P-f-pet-neter-ra, on a statuette in the Hermitage, Petrograd.

94: "*The deceased amakh, Nef,*" , with the determinative of a woman, occurs on a stele in the Florence Museum.

The Grenfell Collection also has a plaque (141) with the name Unnef on it. In the Boston Fine Art Institute, U.S.A., we get the full name  , Unnofer, 142. So there were three contractions of this favourite name of Unnofer; namely, Unn 140, Nef 94, and Unnef 141. In its Greek form of Onnophris, Ὀννῶφρις, it was a common Egyptian name in the Graeco-Roman period. There is a church in Rome dedicated to Sant' Onofrio.

91, a lion with Ra-sign above, is a title placed above the name of the king, and used in the XXVth and XXVIth dynasties. There is a lion on a scarab of Shabaka, 143, and on one of Taharqa, 144, both in the Cairo Museum; also one on a scarab of Psamtek I, published in Petrie's *History of Egypt.* 92 also has this lion and the hieroglyph *khent* (literally "in front of"), here with the meaning of ruling over (Egypt). 95 is also a title "*The Great One of Five,*" signifying the High Priest of Hermopolis. Scarabs with titles only on them, without names or other signs, are rare. The Fitzwilliam Museum has one,  ; the Bower Collection has ; the Wiedemann Collection has .

97 may be a modern cutting, "*Amen Ra the Lord,*" on a XIIth (?) dynasty scarab.

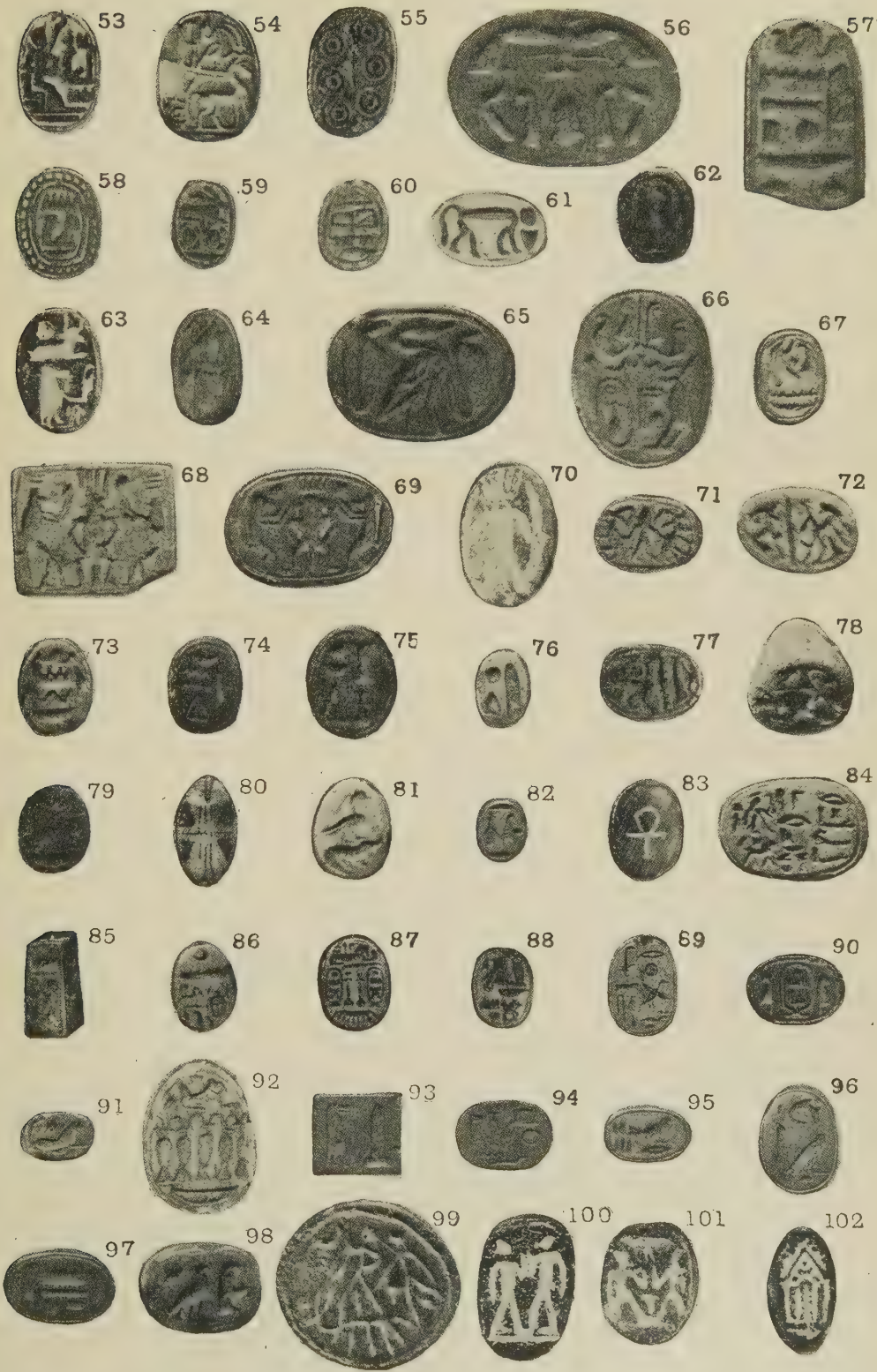
99 and also 78 are conical seals, exceedingly rough and primitive in design; 99 has a divinity on the back of a quadruped with a worshipper.

100 and 101 seem allied to each other. The object between the two men on 102 is apparently an upright lotus. Dorow and Klaproth in *Antiquités Égyptiennes*, No. 1389, figure similar deities (?), with the same object (?) between them (146).

102 is possibly a temple, but not of Egyptian style.

ALICE GRENFELL.

A few notes may be added on the dates of these scarabs. 1 has the two *nefer* signs for Ra, often found in the XIIth dynasty; it reads thus Ra-kheper-ka-kho, apparently a double reading of Senusert II with the *ka* added of Senusert I. 2 to 4 are also of the XIIth dynasty. 5 is probably of the Hyksos age, and 11 is of the style of Apepa II. 21 has the title Mery-ra. 22 is very unusual; Tahutmes has the title *em zo măot*, "with the sceptre of right," probably a reflection on Hotshepsut. The reverse is "beloved of Sebek, lord of Sun," an inscription common enough in the XIIth dynasty, but unusual later. 23 has the crowned uraei of South and North, which are unusual at so early a date. The plant on 28 should be compared with 113. 32 is a scarab of Tahutmes III, made by Sety I. 35 to 38 are probably of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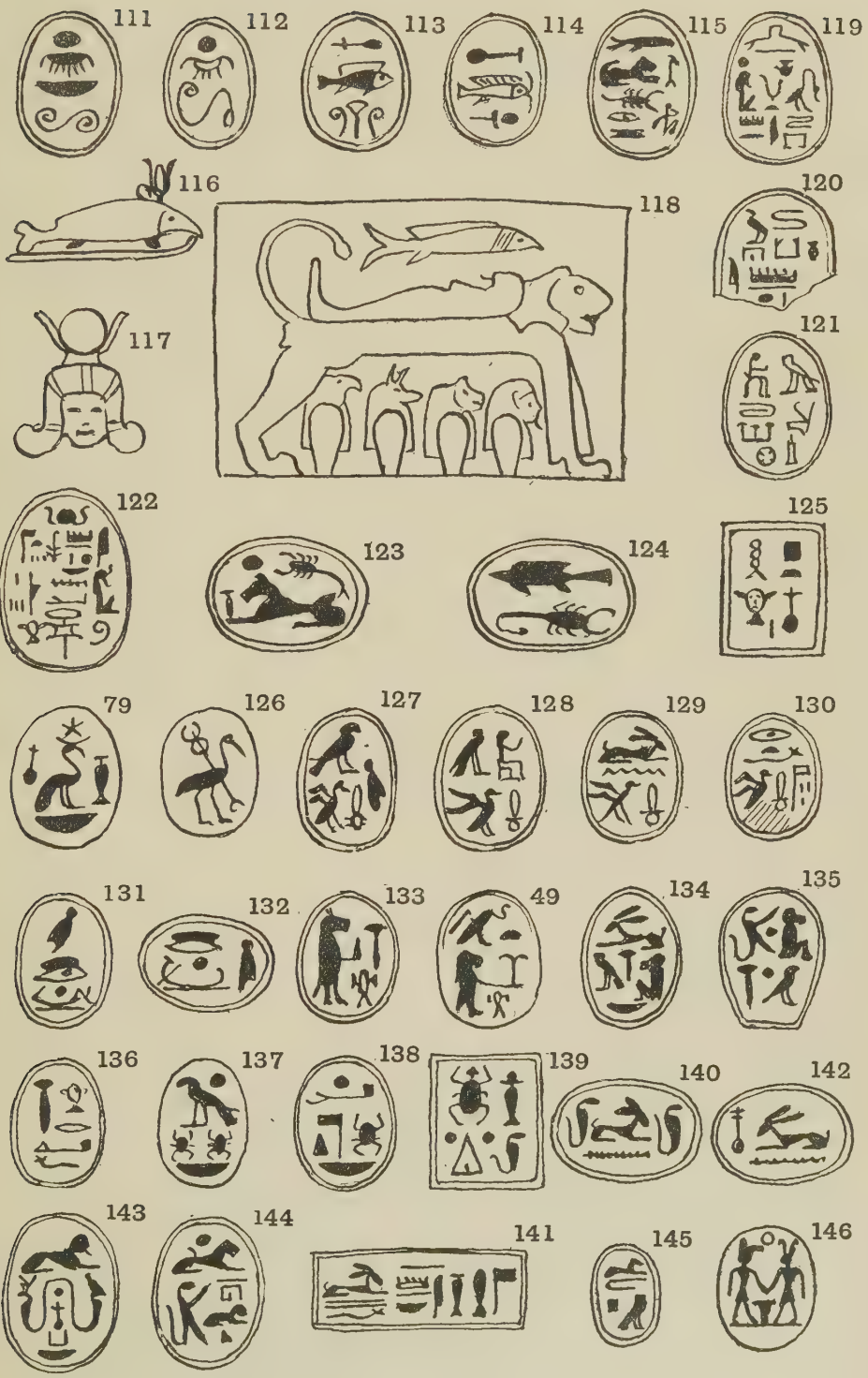
Ramessu II. 53 is of Ramessu III; and 54 is probably of the same by the *măot* before the king. 68, 69 are of the XXIIIrd dynasty, and 71 of the XXVth. 87 by the sphinx holding a *hes* vase is of Men-kheper-ra of the XXVth; as also are 88 and 89, the latter having the name on the other side. 90 is of Menkara, vassal of Shabaka. On 91, 92, 144, the Ra and Lion are of Psamthek, as a vassal of Taharqa. 100, 101, 146 appear to be all alliance scarabs; on 101 and 146 the two figures are swearing alliance over an altar, with the sun as witness above. So far as the detail can be estimated in the drawing it looks as if one figure wore the Hittite tall cap, and the other the Egyptian double crown. 116, the disc and horns are the usual headdress of the sacred Oxyrhynkhos; of the dozen goddesses with this headdress, Hathor seems to be the one in question, *see* figure from Great Oasis, Wilkinson, *M. and C.*, Fig. 584. 141 is one of the foundation deposits of the High-priest Nebunnef from Qurneh (see *Qurneh*, xxxiii, *Memphis II*, xxvi, 4), under Ramessu II. The readings which are of various degrees of probability, suggested by Mrs. Grenfell, were noticed in the last number of this Journal, p. 185, and will have to be taken into consideration in any future study of such scarabs.

W. M. F. P.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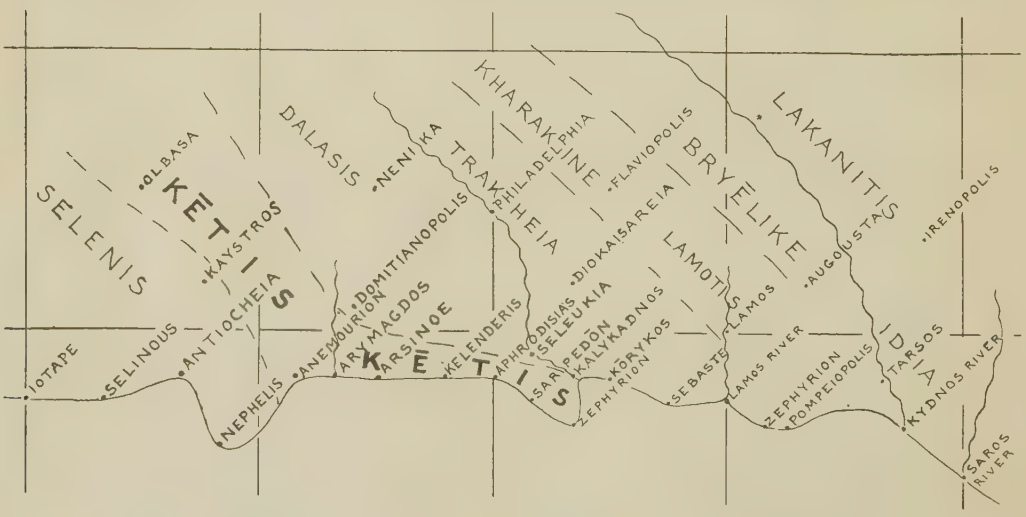
THE END OF THE HITTITES.

AFTER the close of the Egyptian contact with the Kheta in 1194 B.C. under Ramessu III, we gain no further literary evidence on the Egyptian side. In the Book of Kings there are references to Hittites under David and Solomon, and the last living allusion seems to be under Jehoram, when the Syrians besieging Samaria, about 892 B.C., supposed that the Hittites and Egyptians were coming to attack them. The mention of Hittites in Ezra is an archaistic recital of the heathens of Palestine (ix, 1), and in Nehemiah (ix, 8), only an historical allusion to the past. Thus from literary sources we lose sight of the Hittites in Syria about 900 B.C. This is about the middle of the earlier Iron Age of the Hittites, see ANCIENT EGYPT, 1914, p. 173.

At about this point we find them in Western literature in the *Odyssey*. This was recognised some forty years ago by the late Basil Cooper, as stated in an unpublished paper of his, which his daughter, Miss Cooper, has kindly placed in my hands with his books. In the discourse of Odysseus with Alkinous (*Od.*, XI, 521), he says: "But [I will relate] how he (Neoptolemos) slew the hero Eurypylos son of Telephos with the bronze (sword), and many Kētean companions were slain around him." The scholiast states that the Kēteans were a people of Mysia. No trace of such a name of people is otherwise found in Mysia and Western Asia Minor. As the leader was son of Alkinous it is unlikely that he would draw on a race far east of Troy for his companions. Probably we should see in these a mercenary troop of Khita soldiers. Strabo could not clear up the passage (XIII, i, 69), but he asserts (70) that there is a small torrent which joins an affluent of the Kaikos, named Ketaion. He refers again to these Kēteans in XIII, iii, 2, XIV, v, 23, 28, without any further information. Perhaps this outpost of Khita gave their name to the torrent which flowed from their stronghold in the mountains.



THE SOUTH-WEST COAST OF CILICIA, ACCORDING TO PTOLEMY'S GEOGRAPHY.

Later we touch a much more definite location of Kēteans in the first century A.D., when Ptolemy describes a district of Kilikia called Kētis. In the accompanying map the positions of districts and cities are shown as Ptolemy describes them.

Evidently he did not know of the northward trend of the coast into the gulf of the Kydnos. Otherwise the formation agrees closely with the truth ; the diagonal trend of the river Kalykadnos, and the mountain ranges, rule the divisions of the country. The extent of the districts is shown by the positions of cities named in the districts. The names of these districts are written here parallel to the rivers, and the other divisions shown by broken lines ; the names of the cities are at right angles. From Domitianopolis being in Dalasis, Kētis cannot extend more to the north-east ; and from Kaystros being in Selenis, it could not be further south-west. Thus Kētis is limited to a strip along the coast from Seleukia westward to the valley of the Arymagdos, a region of about eighty miles of coast and twenty miles inland, exactly opposite the nearest coast of Cyprus. As we know that the Hittite power formerly covered this region, there seems no reason to question the continuance of the name here down to Roman times. Whether we may also see in Kition, on the opposite shores of Cyprus, another vestige of Hittite influence is doubtful, as they do not seem to have had any sea power.

W. M. Flinders Petrie.

PERIODICALS.

Annales du Service des Antiquités de l'Égypt. Tome XIV. Cairo, 1914.

DUCROS, HIPPOLYTE A.—*L'Arbre* Ash *des Anciens Égyptiens.* It is shown that names alone are not conclusive as to plants; various modern Egyptian words are applied to two different plants, and names are misunderstood. The names that are known will not at all cover all the varieties of wood that are actually found wrought. A surprising result of the examination of ancient wood, is that yew was commonly known to the Egyptians, and used for coffins; unfortunately no dates are given by which the period of this extent of trade could be estimated.

Ash was usually considered to be cedar; but on the strength of the determinative in one case being a long pod of seeds, M. Loret claimed that it was the *Acacia seyal.* This M. Ducros rebuts by showing that there are eight different forms of determinative, only one of which is the pod. These are probably corruptions of one form which is supposed to have been that of a rough log of timber. M. Ducros then takes as a determining description that the heart of Bata was placed on the top of the flower of the *ash* tree. The small red capsule of the yew, and the berry in it, is quoted as likely to be the origin of the idea of the heart of Bata. Such is M. Ducros' conclusion. The idea, however, is not that the heart of Bata became the flower of the *ash*, but that it was placed upon it. When we look to more practical evidence it seems impossible for the *ash* to have been the yew. It was the usual wood for the best shipbuilding, and in the time of Sneferu a ship of one hundred and eighty feet long was built of *ash* wood; it seems impossible to suppose a ship of this size being built of such slender wood as the yew. That it came from Syria is certain, as *ash* from the mountains of Retennu is mentioned on the stele of Amenhetep III (*Six Temples*, l. 17). That the wood produced an oil is certain, as *ash* is one of the seven sacred oils. We require to find then a tree of large growth, fairly abundant, producing an oil, and growing in Syria. The cedar seems to fit all these requirements; the cypress or pine might be possible, but the acacia or yew cannot be accepted. The early form of the determinative (Palermo Stone) is a log with short side twigs, the same as used for *mer* wood.

LEGRAIN, GEORGES.—*Au Pylône d'Harmhabi à Karnak.* The clearing up of Karnak has reached the well-known Pylon X, the history of which has been fairly worked out. By the great colossus of Amenhetep III being placed on the south face, it seems that the foundation of it must be due to him. That the colossus was put in place before the pylon was built is likely enough. From the Ramesside description we know that a long earth slope was required to raise a colossus, and then it was tilted upright over the end. In doing this a pylon would be an extreme encumbrance on the ground; so we may take it as a rule that colossal figures had to be put in place before building a pylon behind them. The building on the foundation was of course suspended by Akhenaten; but it

was resumed by Tutonkhamen or Ay, who used up the buildings of Akhenaten for material. After that it was carved by Heremheb. The fellow statue to the colossus only has cartouches by Heremheb, but it may have been made by Amenhetep III. On the north face are two statues; on the base of one is the effaced name of Queen Nezem-mut, so these are due to Heremheb. The figures, however, are of Ramessu II.

On the inside of the gateway is an inscription about making monuments, due probably to Heremheb; the cartouche has been usurped by Psamthek. The lower part of a reconstruction of the pylon entrance in sandstone has been found on the south side. The inscription on this new portal states that it was erected under Padabastet (826–786 B.C.) by the governor Pashedbastet, son of Sheshenq II (born about 854 B.C.). He states that "he made a great gate of sandstone after he found it going" (to ruin), or "far from" (completion). This implies that the pylon had begun to fall to pieces before 800 B.C. This is strangely connected by M. Legrain with "ce raid de Carthaginois qu' Ammien Marcellin (XVII, 4) reporte aux débuts du règne de Padoubastit." Now Carthage was only founded about a generation before this restoration, and Ammianus only states that the Carthaginians once took Thebes, without a hint of the date or any allusion to Petubastes. The pylon is very unstable in construction, being merely a shell of blocks, filled with loose stones which press the walls out. The damage to such a building was probably due to earthquake, rather than to a raid of enemies.

By far the most important result of the clearing was finding two pairs of figures seated cross-legged, of Amenhetep son of Hapi, and of Paramessu. It was known how in late times Amenhetep was worshipped in the temple of Deir el-Bahri, but his contemporary figures here show how his sacred position was established during his life. On the base of his figure is the address: "Oh people of Karnak, desirous of seeing Amen, come to me, I will make known to him your prayers, I am intercessor of this god; Nibmuria has placed me to repeat the words of the two lands; make to me the *nesut da hetep*, invoke my name continually as you do to a favoured one," or "to the dead." The other figure is equally explicit: "Oh south and north, do all who see the Aten, who go up the Nile to Thebes to beseech the Master of the Gods, come to me. I will pass on your words to Amen of Karnak if you make to me *nesut da hetep*. Make to me a libation of what you carry. Me, I am intercessor placed by the king to hear your words of prayer, to transmit on high the needs of the two lands." These are documents of the greatest import in the religious history, showing a definite intermediary between the worshipper and the god, and that this person might be a subject who was not even a priest. The statement of his having been appointed by Amenhetep III to this function, suggests that it was a royal function deputed by the king to his subject. Yet the position of Amenhetep was essentially civil rather than religious. He was registrar and organiser of the army, head of police, organiser of public works and chief architect, instructor in the temple of Amen, regulating the priesthood, directing the feasts of Amen, and performing daily sacrifice, though not a priest himself. These inscriptions, showing the saintly position of Amenhetep, exactly agree with the Manethonic quotation by Josephus that "Amenophis son of Paapis was one that seemed to partake of a divine nature, both as to wisdom, and the knowledge of future things."

The figures of Paramessu are also important. They were certainly made under Heremheb, as his name is on the breast and right shoulder. He was chief of archers, keeper of the cavalry, keeper of the citadel, keeper of the mouths of the

Nile, ambassador, marshal of the police, President of the Council, chief of the prophets of all the gods (ecclesiastical commissioner), vizier, lieutenant of the king in the south and north, Dux (*repoti*) in all the land. These titles are parallel to the important position of Heremheb before he was king, and the last title is only known otherwise in his case. If a noble wielded the whole viceregal power of the land thus under Heremheb, it is not likely that he would yield up his power on the king's death. It seems then that this Paramessu dropped the article before his name and became Ramessu I, the founder of the XIXth dynasty. Further, his father was named Sety, and the son of Ramessu I was named Sety. It seems then that we have, stated here, the rise to power of the founder of the XIXth dynasty.

Another question is whether the Vizier Rames, whose tomb is the finest at Qurneh, was the same man as the vizier of Heremheb. Rames carved his chapel in the early years of Akhenaten, about 1380 B.C., and appears to have died then, as the chapel was finished by a relative. Hence he could not be the later vizier who succeeded to the throne in 1328 B.C. The reason assigned for the difference by M. Legrain, that the father of Rames was Neby, and that of Paramessu was Sety is not conclusive, as Sety might be politely called Nuby to avoid the unorthodox name, just as King Sety is called Asary in his tomb.

Ahmed Bey Kamal.—*Rapport sur les fouilles exécutées dans la zone comprise entre Dêîrout au Nord et Dêîr el-Ganadlah, au Sud.* This account resumes a previous notice of excavation at Meyr. Each coffin found is transcribed, lists are given of boats and other funeral objects, but there is no trace of the archaeological necessity of recording groups, there is nothing said but what could be seen by looking at the plunder in a museum. At Deir Rifeh work was carried on similarly, devoid of all archaeological value; the remark is prefixed "Malheureusement, cette region, . . . a été presque entrement épuisée." Happily, it had been excavated, with a record and publication of the groups of objects, by the British School (*Gizeh and Rifeh*), and so there was less left for the senseless plundering carried on under the Museum supervision. A list of fifty-two objects is given, worthless for archaeological purposes, which have unhappily fallen under the ravages of these excavations. How Meyr has suffered under official treatment has been well stated by Mr. Blackman (*Rock Tombs of Meir*, I, 14–16).

Mackay, Ernest.—*Report of the Excavations . . . by Robert Mond, Esq.* This paper gives a list of thirty-seven painted tombs of Thebes, which have been put in safe condition by Mr. Mackay. This most necessary work of conservation and publication, which was neglected alike by the Government and foreign societies, has now happily been put in good train by the generosity of Mr. Mond. The abilities and zeal of Mr. Mackay could not be better used than in the much-needed work of putting the cemetery of Thebes into safe order, after thousands of years of ravaging by seekers for gold and for saleable antiquities.

Maspero, Gaston.—*Chansons Populaires recueillies dans la Haute-Égypte.* Two-thirds of the annual volume are occupied by this publication of the store of Arab songs collected in the last fifteen years, by the care of the Director. As there is no list of contents, or statement of the arrangement, we may say that they are classed as: Marriage Songs (p. 101), Circumcision (127), Funereal (131), Workers on Excavations (172), Shaduf Songs (185), Camel-drivers (211), Field-

workers (220), Ass-drivers (233), and Songs of Daily Life (245). Each song was written down in Arabic by a Syrian secretary, and is here given in Arab characters, transliterated, and translated. This incessant play of thought and word around the affairs of life is entirely foreign to the modern westerner; it belongs to a leisured sense of being, in which mere sustenance, and not striving, is the framework of existence, and on this there is room for the embroidery of fancy. The connection of thought in many of the songs escapes us, they seem mere detached phrases, especially the Shaduf and Saqieh songs; sometimes they revert alternately to two different themes, at other times the thread escapes our materialistic sense. The leader-and-chorus songs are often frankly nonsense lines, depending only on rhyme. A good leader will improvise line after line with reference to people and affairs around, and fitting to the uniform chorus. This collection was very desirable, though its connection with antiquities seems to be mostly in the collectors rather than the material.

Tome XV, Fasc. i, ii.

De Bissing, Baron Fr. W.—*Les Tombeaux d'Assouan.* Fourteen pages here add one more to the scattered and incomplete accounts of this important cemetery. Descriptions and printed lists can never be a substitute for clear plates of the whole tomb, which are required for all the inscribed tombs of the country. The present paper on the tombs of Mekhu and Sabne is intended as the first of a series; let us hope that, if the present troubles permit its completion, continuous facsimile plates will be used for the rest.

Clédat, Jean.—*Fouilles à Cheikh Zouède.* Along the coast road from Egypt to Syria a series of forts were built during the great settlement of the Roman Empire under Trajan and Hadrian. The coins found in these posts range from Antoninus to Constantine II; apparently the protection was abandoned by the middle of the fourth century, perhaps in favour of paying Arab tribes blackmail as auxiliaries. These forts were all built on sand dunes, so that each was within sight of those adjacent. Such a position shows that the place of the dunes is permanent; for had they shifted appreciably, the forts would have been destroyed in the course of fifteen centuries. The tomb of a Muslim saint, Sheykh Zoweydeh, gives its name to a district, and to the Roman fort near it. The position is not exactly stated, but it is between El-Arish and Rafah, and about nine miles from Turkish territory. Several rooms and houses were cleared of sand, and the principal discovery was that of a large mosaic pavement, 10 feet by 15. The figures are clumsy, apparently of the age of Constantine. The upper scene is of Phaedra sitting in a porch, with pillars on either side, and curtains; she is resting her head on her hand, and looking anxiously after her nurse, delivering tablets to Hippolytos, who stands accompanied by two huntsmen. The lower scene is the triumph of Dionysos in a car drawn by centaurs, preceded by Silenus on an ass, a satyr and a maenad dancing. Below this is Herakles, two other satyrs and a maenad. An inscription in praise of the work comes at the bottom. The whole is a sad example of decadence, but is in perfect condition. It is shown in three excellent photographs, embracing the whole width of it without any distortion. It is not stated to have been removed, or covered again to protect it. Two marble statues of Aphrodite, $3\frac{1}{2}$ feet high, were found in fragments, and are photographed

as restored. They appear so good that they might well be a century earlier than the settlement of the place under Hadrian.

The baths were found, and the system of heating is described. Also a mound faced with slopes of brickwork, 30 feet by 20 below, and 24 feet by 14 at the top, with a flight of steps ascending it. Its purpose is unexplained; for the steps, being only 2 feet wide, could not lead to a temple or public building. The cemetery contained for the most part simple graves in the sand, sometimes lined or covered with slabs of stone. For the richer class there was a mausoleum with steps descending to groups of loculi, covered over by a high dome. A series of six leaden weights seem to belong to the double of the Palestinian standard of 177 grains (11½ grm.). Many stamped handles of wine jars point to a pre-Roman date; but as amphorae were largely used for foundations here, they may have been imported from an earlier place, and the handles knocked off before they were buried. Otherwise the rise of the settlement here must be dated in Ptolemaic times.

SMOLENSKI, TADEUSZ.—*Les peuples Septentrionaux de la Mer sous Ramsés II et Minéphtah.* This long paper, by the late librarian of the Cairo Museum, collects together the various opinions of writers on the subject, and is more a history of opinion than an addition to our knowledge. It may be useful to future students to have such a bibliography; but where occasionally an opinion is expressed the writer does not seem familiar with comparative study of names. It is not possible to come to conclusions without taking in the campaigns of Ramessu III, as the invasion of his fifth year appears to have been solely of westerners; and, as such, it is linked with the western invasion under Merneptah. It is unlikely that a combination of peoples of Algier with those of Asia Minor should have occurred, when the whole invasion was from the west. Those who cling to the immature guesses about Ilion and Achaians would do well to keep the campaigns clearly apart, and to consider the separate course of each movement. The writer states that he looks on it as quite absurd to connect the name Agbia with El Aghwat, because the latter means the Turks, and could not therefore descend from an ancient name. He does not seem to know how readily names are accommodated in popular use, as in England we have the dene-holes or caves commonly altered to Dane holes, and said to be the work of the Danes.

DARESSY, GEORGES.—*Cylindre en Bronze de l'Ancien Empire.* This cylinder of bronze (or rather copper?) was found at Memphis. It bears the falcon-name *Sekhem-khou;* and by an impression of another cylinder the Ra-temple of this king is known to be named *Ast-ab,* which fixes him as Nefer-ar-ka-ra of the Vth dynasty. A list is then given of the falcon-names, cartouches, pyramid-names and Ra-temple names throughout the Vth dynasty. Lastly, M. Daressy concludes "The accord of the monuments with the list of Africanus is therefore as satisfactory as possible for this period."

EDGAR, C. C.—*A Building of Merenptah at Mit Rahineh.* This is an account of the uncovering by natives of part of the temple already excavated by the British School. The interest of it lies in the stonework being inlaid with coloured glaze; this is intermediate between the examples of such work by Akhenaten and by Ramessu III. It seems extraordinary that no hint of this discovery was given to the British School at that time working at Lahun, although Mr. Edgar expresses a wish to see the whole building worked out. On the contrary, our letter of enquiry

sent to the Museum regarding the excavations at Memphis was left unanswered. It is only after the Department gave the site to the Philadelphia Museum, that the British School is allowed to know, by publications, what has been done with a building already worked by the School.

EDGAR, C. C.—*Some Greek Inscriptions.* These eleven inscriptions are nearly all of the Roman period, and are not of importance.

LEFEBVRE, GUSTAVE.—*Égypte Chrétienne.* Thirty-two Coptic and Greek grave-stones, nearly all from Antinoe, are here published. One bears a fixed date, of the end of December A.D. 620, and the whole group from Antinoe probably belong to the generation before the Arab conquest. One from Deir el-Moharraq is dated in A.D. 747. It would be desirable to have photographs of all dated grave-stones for comparison of style; that of A.D. 620 appears in the plates.

DARESSY, GEORGES.—*Trois stèles de la période Bubastite.* These steles are: (1) of Usarken II, a gift of land, found at Shurafa; (2) of Sheshenq IV, a gift of land, at Bubastis; (3) of Pamay, from Bubastis. The first names "the field of the Shardanna in the land of the prophet Hera"; this shows the name of the Shardana lasting till 864 B.C., but perhaps only as a place-name. This paper should be consulted in detail by anyone dealing with the Bubastite history.

BARSANTI, ALEXANDRE.—*Rapports sur les Travaux exécutés au temple de Séti Ier à Gournah.* Every visitor will remember the sea of confusion of fallen roofs and walls which filled the temple of Sety. The account is given of the thorough clearing and reconstruction of the broken parts. A Nilometer cistern was discovered, of which a view is given; but the report lacks plans or sections, although they are referred to in the text.

BARSANTI, ALEXANDRE.—*Rapport sur les Travaux de consolidation exécutés à Kom Ombo.* The repairs needed for safety at Kom Ombo are here described. It is well that some Coptic remains are now being preserved, as a house and a column of the church here. In a passage in the house was a basket with the bronze furniture of the church sanctuary intact. Both of these reports are well illustrated with photographs.

AHMED BEY KAMAL.—*Rapport sur les fouilles . . . entre Dêîrout et Dêîr el-Ganadlah.* A further sad account of the plundering of cemeteries, with only the contents of a single tomb noted together, and those so imperfectly described as to be useless. This wrecking of a large district has been of no more value to us than if the things had been left alone. The preservation of them in a provincial museum at Siut is useless after their history of grouping has been destroyed. Let us hope that we shall see no more of such unscientific plundering under professed direction of the Museum.

DARESSY, GEORGES.—*Une stèle de l'ancien empire.* This stele, though brought to Cairo, was yet so fissured that it has fallen to pieces and is lost. It does not seem to be known that no matter how fragmentary a stone may be, or how rotten wood has become, flooding with melted paraffin wax will always consolidate it enough for preservation. The most decayed wood, or flaking stone, may be faced with paraffin for transport, and then dealt with at leisure.

It would be a great improvement in the *Annales* if the plates had the locality printed on each, and were numbered continuously in each volume for reference.

REVIEWS.

Museum of Fine Arts Bulletin. Boston, April, 1915. 10 cents.

In this number Dr. Reisner sums up his work of the previous year. He has cleared the streets of mastaba tombs, which stand to the west of the great pyramid at Gizeh. The main discovery of these excavations was the series of eight portrait heads in limestone, which were placed at the bottom of the entrance pits of the tombs. A few such heads were known already (ANCIENT EGYPT, 1914, 125), but the large number now found explain them further. They are all separate heads, never belonging to a statue. They are rather too crude to be life studies for the statues, as the whole figures are more suave and impersonal. They were always deposited at the foot of the tomb shaft, not in the chamber, and therefore probably laid there after the mummy was deposited, at the close of the funeral ceremonies. This can hardly be disconnected with the frequent statements in the Pyramid Texts about the giving of the head to the deceased, in the texts of Teta, Unas and Pepy. This, in turn, seems clearly connected with the frequent severance of the head of the deceased, and placing it later in the grave. Probably a primitive custom of keeping the head (usual in many races now) for some months or years after death, and finally placing it in the grave, was changed when complete burial became usual, and then a ceremonial head was substituted for the actual head. This ceremonial head may have been that to which offerings had been made in the funeral service, as to the Duen-fubara in New Calabar at present (ANCIENT EGYPT, 1914, 125). Beside those heads which are ascribed by Dr. Reisner to the ruling caste, there are two other types present. One of these—the wife of a prince—is said to be "of a distinctly negroid type." This is given as the first of our portraits at the end of this number, and it is there discussed in relation to the head of Prince Rahetep. Two other heads are stated to be of a foreign type; but in the absence of profile views the relation to Egyptian or other types cannot be considered.

Another very interesting subject is the presence of Syrian pottery in these tombs of the IVth dynasty. A large jar is of the characteristic pottery known in the oldest levels of Lachish. Other smaller jars may also be Syrian, but are not so closely paralleled there. There do not seem to have been found any of the painted jars, known in the Ist dynasty royal tombs. It is mainly from the painting of these that Profs. Fürtwangler and Wolters connected them with Greek island pottery, and hence the term Aegean came to be used for them (*Royal Tombs*, II, 46). Until some such painting is found in Syria at an early date, the Aegean connection still seems the more probable. That trade was going on there is shown by the free import of emery and obsidian in prehistoric times into Egypt, the Aegean being the nearest source for both of these stones.

The Oxyrhynchus Papyri, Part XI.—B. P. GRENFELL and A. S. HUNT. 1915. 278 pp., 7 plates.

This fresh instalment of the great mass of papyri stored at Oxford, is mainly of Greek authors who do not concern Egypt in any way. There is, however,

one papyrus which has on it two documents of great interest, one on either side. One is a Hymn to Isis, reciting her various names in different centres of worship, of which more than one hundred and twenty remain. The other is a vision of Imhetep-Asklepios to a devotee. The long list of cities where Isis was adored deserves careful geographical study, and eighteen pages of close text is given to that by the editors, without approaching finality. The earlier part dealing with Upper Egypt is entirely lost, and the extant part begins with Aphroditopolis (Atfih) and Memphis. The arrangement of the towns is evidently geographical, so much so that some light may be thrown on the positions. After Memphis are fifteen places in the west Delta, twelve in the N.N.W. Delta, four in N.N.E., six in north and west Delta, twelve in east Delta, and nineteen along the coast from west to east. This ends the Egyptian section of seventy names. The foreign section is of places which are nearly all well known and can therefore be studied with certainty. The history of this list is curious, as shown by its accretion. The original list began in Asia Minor, passed thence to Macedonia, Greece, the north Aegean, and then alternately Karia and the Troad. Into this list were thrust at irregular parts: Rome, Italy, three of North Asia Minor, and three pieces of a Syrian list. The original list ran thus:—Lycia, Myra, Knidos, Cyclades, Patmos, Chios, Chalcidice, Pieria, Delphi, Thrace, Thessaly, Samothrace, Pergamon, Samos, Hellespont, Myndos, Tenedos, Karia, Troad, Dindyma. The eastern list ran thus:—Paphos, Salamis, Cyprus, Asia Minor, †Petra (Nabathea?), Hypsele, Rhinocolura, Dora, Caesarea, Askelon, Raphia, Tripolis, Gaza, †Bambyke, Amazons, Indians, Persia, Magi, Susa, †Syrophoenicia Berytus, Sidon, Ptolemais, Susa on the Red Sea. This list is evidently a patchwork of four lists which joined at the † marks; the second and fourth belonged together. Then thrown in, without the least relation to anything, are the names of Cyrene, Crete, Chalkedon, Rome, Delos, Pontus, Italy, and Bithynia. Thus there have been three or four successive accretions, made without any regard to the original form of the list. This shows that we must not strain to make a perfectly continuous sequence of these Egyptian lists; probably they were likewise compiled out of preceding materials. We have noticed above that different districts of the Delta are taken in succession, but the detailed order does not seem to follow the positions in regular sequence. Isis is identified with various other deities—Aphrodite, Artemis, Astarte, Atargatis, Athena, Korē, Dictynnis, Hekate, Helen, Hera, Hestia, Io, Leto, Maia, the Babylonian Nania, Praxidike, and Themis. This is in accord with the syncretic ideas of that period. The praises of the universal goddess Isis are very similar to the beautiful address of Lucius to Isis in Book XI of *Metamorphoses*. Indeed, the order of the ideas is so far alike that it seems as if both were editions of the same ritual of Isis worship. In the papyrus, "guardian and guide, lady of the mouths of seas," compares with Lucius praying "Thou dost protect men both by sea and land": "the prosperity of observers of lucky days," compares with "thy health-giving right hand, by which thou dost unravel the entangled threads of the Fates"; "the greatest of gods, ruling over mid-air and the immeasurable," compares with "the gods of heaven adore thee, those in the shades below do homage to thee." The central point is: "thou bringest the sun from rising to setting, at the risings of the stars the people worship thee," and Lucius says: "thou dost roll the sphere of the universe, thou dost illuminate the sun, the stars move responsive to thy command." In the papyrus "the spirits become thy subjects," parallel to "the gods rejoice in thy divinity, the elements are thy servants"; "thou bringest decay on what thou wilt,

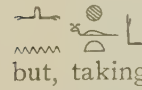
and to the destroyed bringest increase, every day thou didst appoint for joy," compares with "At thy nod . . the seeds germinate, and the blossoms increase." All of these passages follow in the same order in both documents, and the two together will give a close idea of the general Isis ritual. Moreover, the varied names which Isis declares to Lucius, are parallel to the identities related in the papyrus: the Pessinuntica, Athena, Aphrodite, Dictynna, Korē, Ceres, Hera, Bellona, Hecate, Rhamnusia of Lucius, are mostly in the papyrus list.

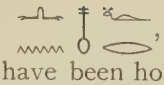
The other document is likewise imperfect at both ends. The first column or two is lost, and it begins with Nektenibis being vexed at the desertion of the temple staff, and ordering the writer Nechautis to search for the priesthood of Imhetep in accord with a document which he has found. The king then orders the descendants of the twenty-six priests to resume their hereditary functions, and assigns an additional endowment of 330 arurae of corn land for them. The writer then states that he had often begun the translation of this document into Greek, but delayed it. A long account follows of his illness, and a vision which appeared ordering him to proceed with the translation; this unfortunately occupies nearly the whole of the extant papyrus, and only at the end do we reach the important part. This relates that King Mencheres (Menkaura, IVth dynasty) established temples and endowments for Asklepios son of Hephaistos (Imhetep son of Ptah), Horus son of Hermes, and Kaleoibis son of Apollo. The latter two persons are quite unknown in Egyptian sources. As the name Horus is used before, probably Apollo here is the translation of Ra. From being associated with Imhetep these are probably deified men, like Amenhetep son of Hapi in later times. Kaleoibis looks as if *Qăr-uab*, "the pure boat" of a god; *qar*, "the boat" occurs in the VIth dynasty as a name. The original forms of these names would then be Hor son of Tehuti and Qar-uab son of Ra.

Another unusual document is part of the Calendar of Church Services at Oxyrhynchos, for five months of the year A.D. 536. Nearly half the days were saints' days, observed at one or another of the churches in the city. This is by far the earliest Coptic calendar known, and is only preceded by four extant calendars of other churches.

The large export of corn from Egypt to Greece by about 470 B.C. may be noted in an Ode to Alexander I of Macedon, where Bacchylides mentions "the corn-laden ships bring vast wealth from Egypt over the radiant sea."

[Mr. F. W. Read sends the following note on details in this papyrus.—W.M.F.P.]

Line 107: "bull-faced." The editors connect this epithet with Isis in the form of a cow (p. 192), and this is, of course, quite possible. It may also be an adoption of the same word in purely Greek compositions, where it is found without any reference to Egyptian mythology, seeing that Greek ideas were clearly more prominent than Egyptian in the mind of the author. As, however, a substratum of the old mythology still remained, it may be worth while noting that "bull-faced" was regarded as an honorific epithet from quite an early period of Egyptian history. This is shown by the somewhat rare proper names and  . The meaning of the second, as it stands, is by no means clear; but, taking the two together, there is no room for doubt that the first should be translated "the face of a bull," and the second, "not having the face of a bull." As all the names of negative form were certainly intended, for whatever reason,

to negate desirable qualities (note especially  , "not beautiful"), this name, "face of a bull," or "bull-faced," must have been honorific, and might well be the source of the Greek expression in the papyrus.

Lines 154–5: "the 365 combined days." Line 204: "a perfect year." The editors' note on these passages (p. 218) is: "The mention of the 365 days may be connected with the circumstance that at Sais the 5th intercalary day, the last of the year, was the birthday festival of Isis; *cf.* P. Hibeh, 27, 205." There is apparently an oversight, as Grenfell and Hunt, the editors of both publications, have shown that the Hibeh Papyrus agrees with all the other evidence in fixing the birthday of Isis to the 4th epagomenal day. The passage runs in their translation: "In the five intercalary days: 4th, Arcturus sets in the evening . . . . and the birthday festival of Isis takes place." The editors could have had no doubt about it, for in a list of festivals extracted from the papyrus the last is "4th intercalary day, Birthday of Isis." Then we have a note which reads: "The birthday of Isis on the 4th intercalary day is mentioned in the Papyrus Sallier IV, the Esneh, Edfu, and Dendereh calendars, and by Plutarch, *De Iside et Osiride*, 12." This note shows the consensus of evidence on the point, but is not quite accurate since the epagomenal days are not mentioned in Payrus Sallier IV. The editors (or an Egyptologist consulted by them) have evidently been misled by the fact that a table of the epagomenal days was given by Chabas in the work, "Le Calendrier des jours fastes et néfastes," in which he translated Papyrus Sallier IV; this table was derived from Leyden Papyrus I, 346. There is nothing in Egyptian to justify the association of Isis with the arrangement of the calendar; all this, like much else in the papyrus, stands entirely apart from the true Egyptian tradition.

The Rock Tombs of Meir, Part II.—Aylward M. Blackman. 46 pp., 35 plates. 4to. 25*s*. 1915.

This volume is the continuation of the first part of the Meir tombs which we summarised in Ancient Egypt, 1915, p. 84. The present instalment of the work is excellently done. The whole tomb of Ukh-hetep son of Senbi is copied in outline; as it is on varying scales of $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{8}$, a key-view of the whole walls would have been desirable to show the relative size of each part. The details are given more fully in 15 photographic plates, which are far more clear than most such publications, and 4 plates of signs and details drawn. The Beja herdsmen figure here as in the other tomb; the fight of the boatmen is also a good subject, but otherwise most of the sculptures are of the kind usual in the Vth and VIth dynasty, though here as late as the beginning of the XIIth dynasty. An unusual feature is the large amount of squaring left on the walls, owing to the intended carving never having been executed, and the drawing being left unchanged. This seems to be the original squaring for the draughtsman, and not later lines put on for the sake of copying as was done at Gizeh in the Vth dynasty tombs. Rare figures of animals are the giraffe and the Mesopotamian deer with branching horns; Mr. Blackman might have added to his references the earliest dated one in *Medum*, XXVII. Among the signs which are specially figured and discussed, the *senth*, twisted cord, is stated here to be the earliest example; but it occurs on several cylinders of the Ist dynasty (Ancient Egypt, 1914, 75). The sign *kher* is not a drain or sink, but obviously a tripod stand used for upholding vases, two legs in front and one seen at the back; hence its meaning of "under," "being

laden," or "supporting." The suggestion that the *neter* sign is derived from little flags put on sacred places, as in Nubia at present, would agree with such a sign as is seen on poles before a shrine in the Ist dynasty (*Royal Tombs* II, x, 2), but would be difficult to reconcile with the constant division of the top of *neter* into two strips in all early examples.

The Civilisation of the Ancient Egyptians.—A. BOTHWELL GOSSE. Large 8vo, 161 pp., 154 figures. 5*s.* (Jack.)

The publishers have a good scheme of freely using the facilities of modern illustration to familiarise general readers with different civilisations, ancient art, and present science. The illustrations of the present volume are largely drawn from Wilkinson and Lepsius, with the mannerisms of both styles; there are also many photographs, which will give a sounder view of Egyptian art. The twelve chapters comprise the general scope of the civilisation as known to us, though mainly from large monuments and literature rather than from the smaller objects of daily life and usage. Little of the large stores of domestic material in our museums has been drawn upon, doubtless because illustrations of these are not to be had so readily as of the great monuments; it would be very desirable to bring forward more of the actual surroundings of daily life, such as have been so well arranged and published for Roman life, in the British Museum. The text of the book shows a good general acquaintance with the various branches of the subject and the publications, without the serious mistakes which are too often seen in popular books. A few points might be amended, as the mention of cotton being cultivated, of cutting hard stones with metal tools, or of enamelling, none of which were in use. As a whole, the book may be commended as a good all-round view of ancient Egyptian life and its real spirit and feeling, especially for elder children, for whom the text seems intended.

Amentet, an Account of the Gods, Amulets, and Scarabs of the Ancient Egyptians.—A. E. KNIGHT. 8vo, 274 pp., many figures. 12*s.* 6*d.* (Longmans.)

This is announced as being a compendium for the collector; accordingly it adopts the dictionary form of alphabetic arrangement rather than a systematic view. It is thus a book of reference, and not a treatise to be used for general ideas. The author frankly states that the different sections of it are drawn from Daressy's Cairo *Catalogue of Divinities*, Budge's *Gods of the Egyptians*, and Petrie's *Amulets*. For those who have no larger works at hand, this practical hand-list may be of use, as being correct in essentials, and with but few misprints. Where corrections of the sources have been attempted, they are not all successful. The frontispiece is a travesty of Egyptian style, which shows, we fear, that the author is not acquainted with Egyptian art. It is most unfortunate that not only here, but also in the largest series of figures of gods lately issued, the public is entirely misled as to Egyptian drawing and detail of style. Nothing like these figures was done in any age of Egypt. On p. 6 the body of faience figures is said to be "a kind of frit made of powdered schist or limestone." It is safe to say that neither of these materials was ever used; the body is of very fine and pure quartz sand, with a trace of binding material, probably alkali. The origin put forward for the *onkh* sign is impossible in view of the early forms, with bow knot and two ends, which can only be understood as a tied girdle. The *kheses* is not an "angle amulet," as an angle may be of any number of degrees; it is a square, which properly means a right-angle, as a "carpenter's square"; the use of square for

an enclosed figure is only a recent corruption of English. The section on scarabs is the least successful; though said in the preface to be "well up to date," it is far from complete or accurate. Only sealings of two kings are named in the Ist dynasty, though others of all eight are known. Den-Setui is put in the IInd dynasty. The most complete collection is treated as having been scattered, many references being given to objects "formerly in the Petrie Collection," though the whole of those, and many more, are to be seen any day in University College. Another cylinder is said to be "in the Poignon Coll." Long ago it was lost to sight, then bought from a dealer, and is now safe in London (Univ. Coll.). An old statement is quoted that the earliest cartouche is of the IIIrd dynasty; but the cartouche belongs to kings of the Ist dynasty on the new pieces of the Annals. The statements of the numbers and rarity of scarabs are very incomplete. Saptah's and Tausert's are not rare, hundreds were found in their temple deposits. Of Rameses VII there are none in the British Museum Catalogue, and Rameses IX should now be placed as Saptah II in the XIXth dynasty. The whole of this section should have been done thoroughly, or left alone; incomplete statements are of no use to a student or a collector. The author does not seem to know the Louvre Collection (p. 260), or he would remember one of the most striking objects among the scarabs, the marble monstrosity of the Antonine age, which he asserts to be the same as the green granite colossal scarab of the British Museum. We hope that further experience will enable the author to amend a work, which, in any case, will be welcome to a large number of collectors.

A Coloured Drawing of the Madeba Mosaic Map.—I. M. CASANOWICZ. (*Proc. United States Nat. Mus.* Vol. 49.) 1915.

This is a publication of a hand copy of the celebrated mosaic map of Palestine and the Delta, which is confessedly not completely accurate. It seems hardly worth while to issue a less perfect copy than those already published. The Egyptian interest of it is in giving the road across the Delta from Pelusium to Alexandria, by Sethrois, Tanis, Thinnis, Beunēsos, Xois, and Khereu; but as this is placed along the east side of the Sebennyte arm it is evident that the map maker quite mistook the arrangement of the sources that he had.

Notes on Bisharin.—Prof. SELIGMAN. (*Man*, June, 1915.)

The resemblance of some Bishari objects to Egyptian forms is striking. The basket used for milk is like the baskets of the Ist dynasty. The wooden headrest is of a type known in the Old Kingdom. The basket with a pattern of black and white triangles is of the family of basketry of the later prehistoric age. All these fashions were extinct long before 3000 B.C. and therefore it is the less likely that they were borrowed from the Egyptians. We should rather see in these the descendants of the types which entered Egypt from the desert people, some 7,000 years ago; a simple desert tribe will maintain styles unlimitedly, as in the pottery of the Algerian Mountains which belongs to the family of the Egyptian work about 10,000 years ago.

The Stela of Sebek-khu.—T. ERIC PEET. 8vo, 22 pp., 2 plates. 2*s.* Manchester Museum. 1914.

This is a re-edition of the stele translated by Newberry in *El-Arabah*. It is of historical value as a record of the earliest known war by Egyptians in Syria.

Senusert III is said to have gone to Sekmem, where he was attacked by Sekmem and the Retenu, and fought with the Aam (Syrians). Sebek-khu distinguished himself and was rewarded by the king. So far, the position of Sekmem has not been identified. The guess of Max Müller placing it at Shechem is unlikely, as an Egyptian would not so soon have penetrated into the hill country.

General Guide to the Collections in the Manchester Museum.—66 pp., 8 plates. 3*d.* (Longmans.) 1915.

Manchester has long been known as having one of the best Museums outside of London, especially in Zoology (fossil and recent) and Egyptology. The present well-packed catalogue gives a quarter of its pages to Egypt. A general outline of the history and early period of the country is given, and the classes of antiquities of each age are described. A main feature of the collection is the large number of groups from tombs, and the precise localising and date of the objects, which have nearly all come from registered excavations.

NOTES AND NEWS.

So far, we have not heard of any losses to English Egyptology since the lamented death of Mr. Dixon. Mr. Engelbach, who was at Suvla Bay, is, we hope, now moved to safer quarters. Mr. Eric Peet has now a commission in the A.S.C., and will be in active service. Dr. Derry has been for some time in the Hospital Force in the Mediterranean. Prof. Ernest Gardner—in the guise of a Naval Lieutenant—is using his great knowledge of modern Greeks, their ways and their language, on the Salonika Expedition. Miss Rowdon, who took the diploma in Egyptology, is in the Admiralty Office. Mr. Sidney Smith, a former student of Egyptology at University College, and later on the British Museum staff, was wounded, and is invalided home from France. Likewise Mr. Hambley is invalided back from the Dardanelles. Miss Theodora Dodge—as an American neutral—worked on hospital and relief work at Brussels for nine months; the strain of repression there has now sent her home.

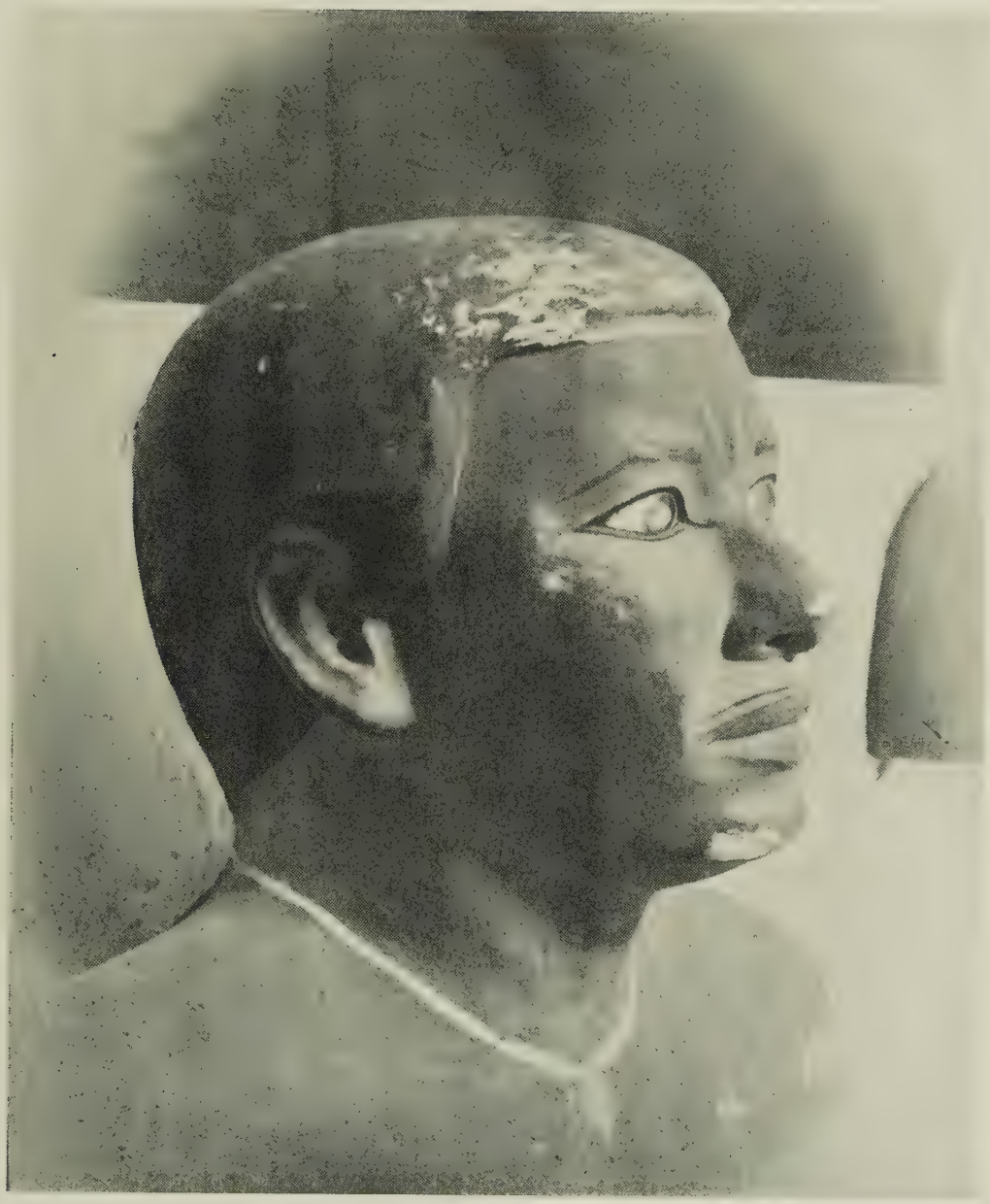
Foreign archaeology has suffered much more severely. Beside the immense loss of perhaps the most accomplished European archaeologist, M. Joseph Déchelette, and M. Jean Maspero—already noticed here—we now learn of the death of Prof. Strack the principal authority on the Ptolemies, of Prof. Sudhaus the Hellenic scholar, and of the son of Prof. Willamovitz-Moellendorf. The address which the latter professor lately gave in Berlin was a sorrowful forecast of all Europe being split into two worlds, without the least scientific intercourse within the lifetime of any scholar now living. Such must be the result of a determination to grasp by every means, fair or foul, "world-power or going under." Such an aim could have but one result, the permanent division of Europe, and annihilation of all intercourse; those who adopted that formula could have been under no illusion as to the result. They have rent the world.

THE PORTRAITS.

THE limestone head found by Dr. Reisner in a tomb of the IVth dynasty at Gizeh, is of a heavier and rather coarser type than that usually seen among the upper class of Egyptians of that age. The discoverer goes so far as to say: "The wife of the prince is curiously enough of a distinctly negroid type. The head is I believe the earliest known portrait of a negro. The woman seems, however, not of pure negro blood, and may possibly be the offspring of an Egyptian and a negro slave girl." This seems rather a low estimate of a form which is only rather prognathous; the lips show no trace of negro eversion, and do not differ from those of some of the other heads, while the nose is slightly aquiline. The obvious connection of this head is with that of Prince Rahetep, given here as the second portrait. There does not seem to be a profile photograph available, so a three-quarter head is illustrated, which shows sufficiently the type of the profile. Every detail seems to be like the Gizeh head; the flat and high forehead, and slight brows, the angle of the nose and its curvature, the high cheek-bone, the position of the jaw and mouth, the angle of the lips and facings, the curve of the chin. The one head is just as much—or as little,—negro as the other. Rahetep was a son of a king, probably of Seneferu as his tomb was at Meydum. He was by no means slighted, as he had the honour of being High Priest of Heliopolis, governor of Buto, and a general, besides holding various other dignities. This does not seem as if he were son of a negro slave, but rather on an equality with any other prince. He was probably buried in the reign of Khufu, and hence the Princess of Gizeh, buried in the reign of Khafra, would seem to have been one of his daughters of whom three are known in his tomb sculptures, Nezem-ȧb, Setet, and Merert. Where this type came from it is difficult to say owing to the scarcity of comparisons. The form of the nose is that of the chief, probably of the Fayum or North-west Delta, who is represented upon the slate palette, as being smitten by Narmer. The mouth and jaw, however, are heavier, and not so Semitic in type; there is no parallel for it among the early types known in Egypt, and some additional influence between the Ist and IVth dynasty must be supposed.

WIFE OF A PRINCE.

LIMESTONE. GIZEH.



LIMESTONE.

PRINCE RAHOTEP.
CAIRO MUSEUM.

MEYDUM.

ANCIENT EGYPT.

NOTE ON THE GORRINGE COLLECTION.

In 1879 the arrangements for the transport of the obelisk from Alexandria to New York were undertaken by the government of the United States. For this purpose Lieut.-Commander Henry H. Gorringe was sent out, and after many obstacles he began to move the obelisk on 28th October, 1879. He succeeded in floating it by 1st June, 1880, and it was erected at New York on 23rd February, 1881. During his stay in Egypt his occupation about the obelisk drew his attention to the antiquities, and he formed a collection which he brought home with him. After his death this collection was entirely lost to sight.

Terra-cotta Figures of Harpocrates.
Roman Period. Gorringe Collection.

Female Figures and Bust of Isis.
Roman Period. Gorringe Collection.

A notice of my discovery of the Gorringe Collection of Egyptian antiquities, and a short description of the same, appeared in the *Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes*, Vol. XXXVI. The most

important piece of the Collection, the mortuary stela of Ptaḥmes, was there described, its text having been published in Vol. XXVII of the same Journal by Ahmed Bey Kamal in an article entitled *Sur une stèle aujourd'hui perdue.* The mortuary stela of Ptaḥmes, as an examination of it shows, belongs to the XIXth dynasty, and is in an excellent state of preservation.

Bronze Figures of Eros, Satyr, Herakles wrestling, etc.
Roman Period. Gorringe Collection.

Figures of Osiris, Sekhmet, Neith, and Isis.
XXVIth Dynasty. Gorringe Collection.

The Collection contains many other valuable and interesting objects. Among them are: Two beautiful sphinxes of limestone, both 21 inches by 12 inches by 8 inches; two limestone Horus birds, both $14\frac{1}{2}$ inches long and $12\frac{1}{2}$ inches high;

a fine mummiform figure, 17 inches high and 13 inches round the shoulders, well preserved and painted in brown, black, and gilt; a late marble statue of Rameses II with the double crown and the *uraeus*, 22½ inches high and 18 inches round the shoulders; eight small terra-cotta figures; many fine bronze statues probably belonging to the Saite age, among them being Sekhet, Tefnut, Osiris, Isis, Tum,

Bronze Figure of Ptolemy X Lathyros.
Gorringe Collection.
(See p. 95 and end portraits.)

Anubis, Hathor, Rē, and others; about fifty small charms, among them being examples of the *ankh*, the *thet*, the *dad*, and the *uaz*, the *ḥr*, the *ynt*, etc.; terra-cotta rings; many scarabs, some valuable; some pottery; many bronzes; and one of the claws of the New York obelisk.

There is also a fine collection of Oriental coins containing about three hundred pieces, many of which are valuable. Among the Greek objects is an ancient torso of Marsyas, an early copy of the original of Myron of the first half of the fifth century, B.C.

There is a stela of sandstone measuring $21\frac{3}{4}$ inches by $15\frac{1}{4}$ inches by 2 inches. It bears the cartouche of Thutmose IV of the XVIIIth dynasty. Behind the Apis

Bronze Figure of Ra and Amulet Box of Obelisk Form Dedicated to Baṣṭet.
XXVIth Dynasty. Gorringe Collection.

is the name of Amon-Rē, lord of heaven; and before it is the Hor of the upper and lower world. The text contains a series of laudatory titles in four horizontal lines, reading from right to left. There are reasons for believing that the stela is a forgery.

The accompanying figures are a fair representation of the contents of the Collection.

Samuel A. B. Mercer.

AN EARLY REPRESENTATION OF TAURT.

THE ivory comb of which a photograph (natural size) is here reproduced was bought from a dealer in Luxor early in 1914. It is of a well-known character, common at the end of the predynastic period or early in the dynastic, but specially interesting in that it portrays the Hippopotamus-goddess Taurt in the highly stylised form and conventional position in which she is habitually represented in later times.

IVORY COMB
WITH FIGURES OF TAURT.

Representations of the deities of prehistoric times are rare; and, although I have not been able to make an exhaustive search through literature, I believe that no such early example of Taurt has been recorded. The fine image in the British Museum cut from a hard breccia may be regarded as archaistic rather than archaic. The fact that she is here represented in her conventional form on an object of no ceremonial importance, seems to indicate that even at the early period to which this comb belongs, the cult of the goddess was already fully established.

C. G. SELIGMAN.

THE EGYPTIAN ELEMENTS IN THE GRAIL ROMANCE.

(*Continued.*)

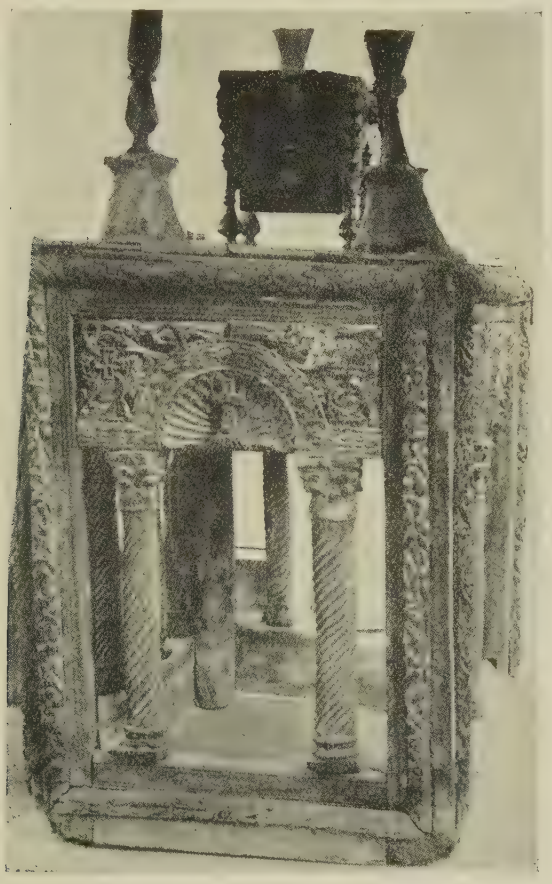
Incidents showing an Egyptian Origin.

FURTHER proofs of the Egyptian origin of this portion of the Grail Romance are also found in the passages which relate to the Grail itself and to Josephes. At the beginning of the legend, Joseph is told to make a wooden ark ("a luytel whucche," as the alliterative "Lyfe" expresses it). This is to contain the Holy Blood, and various marvellous sights are seen by those who look into it; it is covered with a "plateyne," a word hitherto unexplained. The account of the use of the ark points to a Christian ceremony, but a ceremony not in use in the Western Church. When, however, the Coptic rite is investigated, the wooden ark is found to play

1. SACRAMENTAL ARKS OF ARABIC AND BYZANTINE STYLES. 2. COPTIC MUSEUM, CAIRO.

a large part in the celebration of the Eucharist. Butler (*Coptic Churches*, Vol. II, pp. 42, 43) says: "Every Coptic altar is furnished with a wooden ark or tabernacle . . . It is a regular instrument in the service of the mass, and at other times lies idle upon the altar. It consists of a cubical box, eight or nine inches high, the top side of which is pierced with a circular opening just large enough to admit the chalice. At the consecration the chalice is placed within the tabernacle, and the rim when it is thus enclosed is about flush with the top, so that the paten rests as much on the tabernacle as on the chalice. The four walls of the tabernacle are covered with sacred paintings—our Lord and St. John being the most frequent

figures." The ark is so important and sacred in the Coptic ritual that there is a special prayer for its consecration: "O Lord our God, who didst command Moses thy servant and prophet, saying: Make me precious vessels and put them in the tabernacle on Mount Sinai, now, O Lord God Almighty, stretch forth thy hand upon this ark, and fill it with the virtue, power, and grace of thy Holy Ghost, that in it may be consecrated the Body and Blood of Thine only begotten Son our Lord."[1] Joseph's wooden ark was then the tabernacle of the Coptic rite. In the actual celebration of the mass according to the Coptic ritual, the priest, after the prayer of oblation, places on the chalice a little flat round mat, made of silk stiffened with some coarser material; this I take to be the "plateyne," or little flat thing, which Nasciens lifted up in order to look inside the chalice.



3. Sacramental Table of Carved Wood.
Fifth Century, A.D. Coptic Museum, Cairo.

Coptic ritual is found again in the consecration of Josephes. The ceremony began with a procession issuing from the ark; two angels came first, sprinkling holy water; they were followed by two others, each carrying a golden bowl and a towel; then three more bearing golden jewel-encrusted censers and boxes of sweet spices. After these came an angel on whose forehead was written "ie sui apieles forche del tres haut signour"; upon his two hands was a cloth, green as an emerald, on which rested the Grail; on his right was an angel carrying a head, the richest ever man saw; on his left, another angel bearing a sword of silver and gold.

[1] Neale, *Eastern Church*, Gen. Introduction, I, p. 186.

Behind them were three angels carrying coloured tapers, and then came Christ, robed in the robes of a celebrant priest. The first angels sprinkled the people, and then went round about the "palace" sprinkling; when they arrived before the ark they bowed to Christ and to the ark. Christ called Josephes, then took him by the right hand and drew him close, making the sign of the cross upon him. There issued from the ark a grey-haired man carrying vestments, and a young man with a white and vermilion crook in one hand, and a mitre in the other. They robed Josephes, the sandals being put on first, and seated him in the richest chair, such as never before was seen. All the angels then came before him, and Christ anointed and consecrated him; the holy oil was deposited in the ark. Christ placed the ring on Josephes' finger, and gave an address on the mystical meanings of the vestments. Josephes then celebrated mass.

The points of coincidence between this and the Coptic rite are best seen by putting the two in parallel columns. The Coptic ritual is taken almost verbatim from Butler's *Coptic Churches*.

4. Coptic Church of Abu Sergeh, Ikonostasis removed except on Left. Photograph by Rev. C. T. Campion.

Josephes.	Coptic.
1. The ark becomes a room from which the angels issue.	1. The sanctuary is closed with a solid wooden screen (Fig. 4), which makes it appear like a box. The procession at a consecration issues from the sanctuary.
2. Josephes stands at the door of the ark, two angels holding his arms; one angel bears an ampulla, the other a censer and box.	2. The patriarch stands below between the altar and the throne, and faces eastward, a priest holding him on either side.

3. Josephes gazes into the ark and sees an altar draped in white, and on it the instruments of the Passion and the Grail covered with red samite.

3. The ordinary covering of a Coptic altar is a tightly fitting case of silk or cotton, sometimes dyed a dim colour. Before a celebration, besides the ordinary covering the altar must have a second vestment, which shrouds the whole fabric. All the vessels must be in readiness upon the altar, and before the commencement of the mass the sacred elements are covered with a veil of white or coloured silk (Fig. 5).

5. Veiled Ark upon the Altar. Coptic Church of Abu Seyfeyn, Cairo. Photograph by Mrs. Butcher.

4. Two angels head the procession sprinkling holy water.

5. Two angels, each carrying a golden bowl and a towel.

5. The cover and basin, for the washing of hands at the mass, are part of the complete furniture of a Coptic altar. In the Latin Church, ewer, basin, and towel were given to the deacon at ordination.

At the consecration of a patriarch, first come deacons bearing uplifted crosses, burning tapers, and flabella (Fig. 6) ;

6. Three angels carrying golden censers and boxes of sweet spices.

6. Then a priest swinging a thurible (Fig. 7).

7. Three angels ; the middle one bearing the Grail which rests on a green cloth ;

8. the angel on the right bears *a head* ;

8. It was customary for the patriarch sitting on the throne to hold the *head of St. Mark* [this was on the last day of the consecration festival].

9. the angel on the left bears a sword.

10. Angels carrying coloured tapers.

11. Christ in sacramental garments tells Josephes that he is to be the sovereign bishop. Josephes is vested in pontifical robes and seated on the episcopal throne. All the angels come before him, and Christ anoints and consecrates him.

11. The senior bishop lays his right hand upon the head of the patriarch, while the archdeacon makes a proclamation ; again he lays on his hands and recites the invocation. Then the bishop signs the patriarch with a cross upon the head [the language of the rubric here rather suggests the use of chrism, but is not clear upon the point], proclaims him "archbishop in the holy Church of God of the great city of Alexandria," and vests him with the patrashil and chasuble. After many prayers the chief bishop and all the bishops lay on their hands ; and when the patriarch has received the pall and cope, crown and staff, he is led up to the throne and thrice made to sit on it ; bishops, clergy, and laity, all salute him.

6. Coptic Deacon reading the Gospel.
Photograph by Mrs. Butcher.

12. Josephes celebrates mass.

13. The bread becomes flesh and the wine blood.

14. Christ tells Josephes to divide the bread into three parts.

15. Josephes sets Leucam to watch the ark day and night.

12. The patriarch, directly after consecration proceeds to celebrate the Eucharist.

13. The doctrine of the Real Presence, of the change of the bread and wine into the very body and blood of our Lord, is held by the Copts in its most physical literalness.

14. The celebrant signs the oflete thrice, and breaks it into three portions.

15. In Egypt the practice of reserving the host, which has long been discontinued, once prevailed.

The most striking of these coincidences is the importance of a dissevered head in the ceremony. The Grail legend indicates that it was carried round the church to be seen by all; and, though there is no mention of such a procession in the ritual of the consecration of a patriarch, it is certain that so holy a relic must have been borne in solemn pomp from its resting place to the enthroned patriarch. There is a procession recorded in connection with this sacred head. When the Church of St. Mark at Alexandria was destroyed, a ship's captain stole the head of the saint; the ship miraculously refused to leave the city until the head was restored to the patriarch, Benjamin, "And the Father Patriarch returned to the city, carrying the head in his bosom, and the priests went before him with chanting and singing, as befitted the reception of that sacred and glorious head" (Evetts, *History of the Patriarchs of the Coptic Church*, in *Patrol. Orient.*, I, p. 500). The Grail legend also states emphatically that the head was richly decorated; at the service when the newly consecrated patriarch held the head of St. Mark he placed a new veil or covering upon it. It was this veil evidently which was richly ornamented.

7. Coptic Priest censing the Congregation.
Photograph by Mrs. Butcher.

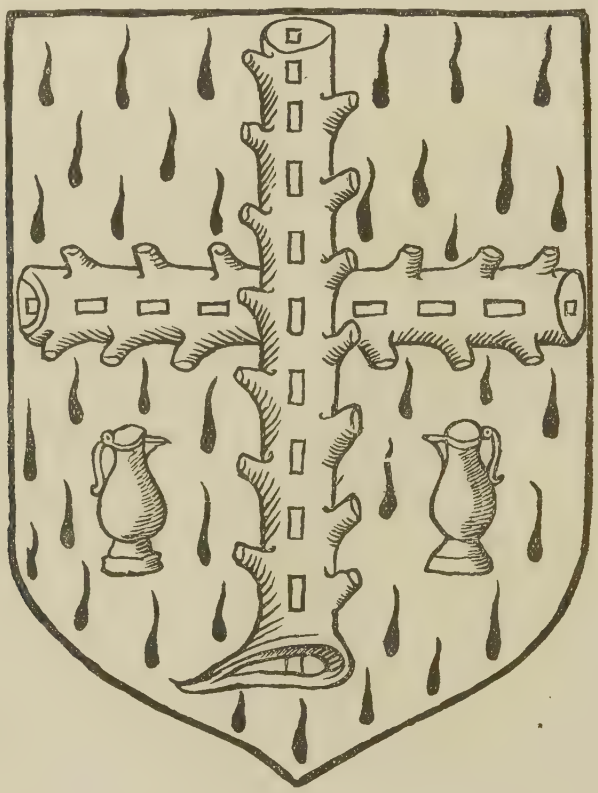
The procession of the Grail appears to be the equivalent of the Great Entrance of the Eastern Church, the solemn bringing in of the sacred elements. This is a purely Eastern rite, which is not found in the Latin Church. In the Coptic Church this ceremony has dwindled down to the carrying of the wafer round the altar by the priest, followed by deacons bearing lighted tapers; in the Melkite Church, however, the procession is conducted with greater splendour.

The vestments with which Josephes was clothed appear to be those in use in the Coptic and Byzantine Churches. Mystical meanings assigned to different vestments first appear in Europe about the middle of the thirteenth century; there is no proof that these meanings were found in the *Book of Melkin* so it is impossible to say that they come, with the rest of the story, from Egypt.

Though many of the points which coincide with the Coptic ritual, will coincide equally well with the Western rite, yet there is a residuum which is not Western;

and of these definitely Eastern practices some—such as the richly decorated head—point with equal certainty to Egypt. Even the fraction of the oflete into three seems to have been peculiar to the Roman, Ambrosian (Milan), and Alexandrian rites. It seems then that we have an account of a ceremony of an Eastern Church, "edited" by someone to whom only the Western ritual was familiar, and who therefore added the parts which he thought had been omitted by the original author.

The Book of Melkin makes a curious and interesting statement in these words: "For Joseph has with him, in the sarcophagus, two little vases, white and silver, filled with the blood and sweat of the prophet Jesus. When his sarcophagus shall be found again, whole and unharmed, it will be seen in the future and will be open



8. The Shield of Joseph with the Flagons or Cruets.
From the black-letter copy of the *Lyfe of Ioseph of Armathia*, printed by Richard Pynson in 1520.

to the whole world. Then from that time, neither water nor dew of heaven shall ever fail the inhabitants of this noble island" (*John of Glastonbury*, Hearne's edition, p. 30). The two little vases or fassula are, as Skeat pointed out, evidently the same as the two little cruets represented on the title page of the black letter *Lyfe of Ioseph of Armathia*, printed by Richard Pynson in 1520. The two cruets are part of the altar vessels for the Eucharist in most, if not at all, Christian churches. One cruet is for wine and one for water, which, in the *Book of Melkin*, are symbolised as the "blood and sweat of the prophet Jesus." Though there is nothing peculiarly Coptic, or even Eastern, in the use of cruets at the Eucharist, there seems to have been some special ritual concerning them in the Coptic Church at some early period. "There is one singular usage of the Copts. . . . In several

of the churches, though not in all, a small glass crewet, filled with unconsecrated wine, may be seen resting in a cup-like wooden crewet-holder, which is nailed on to the haikal-screen *outside*, and usually towards the north. There is no such arrangement in the Cairo Cathedral, nor does the position of the crewet connect at all with any point of the present ceremonial. One can only surmise that it is the relic of some forgotten ritual practice. At Sitt Mariam Dair Abu 's-Sifain there are two such crewet-holders on the screen" (Butler, *Coptic Churches*, II, p. 55). As regards the term "the prophet Jesus" I shall have more to say later.

The sarcophagus of Joseph is mentioned in the *Perceval le Gallois*, where it is the magical coffin which will open only for the Best Knight in the World. Within

9. Coptic Flagon. British Museum.

it were the pincers, still bloody, with which the nails were removed from the hands and feet of The Crucified (Evans, *High History*, I, 9; XV, 23, 24; XVIII, 25).

In every mention of Josephes it is always said that he was consecrated by Christ Himself; though Lovelich's version gives a detailed account of the consecration and though, as I have shown, it coincides in a remarkable manner with the Coptic ritual, there is nothing in that ritual analogous with the statement that Christ is present in person and actually performs the act of the laying on of hands. But Dr. A. J. Butler has called my attention to the parallels in Coptic history given in Evetts' *History of the Patriarchs of Alexandria* (*Patrol. Orient.*, t. 1, fasc. 4). "Demetrius" [the 12th patriarch] "had a gift from God, which was that when he had finished the liturgy, before he communicated any one of the people, he

beheld the Lord Christ, giving the Eucharist by his hand" (p. 156). And the celebrated patriarch Benjamin thus relates how he consecrated the church of St. Macarius in the Wady Natrūn, and marked the consecration-crosses upon it. "When I marked the sanctuary with the chrism, I saw the hand of the Lord Christ, the Saviour, upon the walls anointing the sanctuary" (p. 510). He repeats the statement again: "I beheld with my own sinful eyes the holy palm, the sublime hand, of the Lord Jesus Christ, the Saviour, anointing the altar-board of this holy sanctuary" (p. 511). Here it was a church, and not a bishop, that Christ "sacred with his owene hande," but it is a proof that the idea of the hand of the Lord visibly taking part in an act of consecration was known to the Copts.

Another interesting proof of the connection with Egypt, and the derivation both of names and religious ideas from that country, lies in the name of the castle in which the Grail was finally housed. This is given, in Lovelich's version, as Corbenie. It is said to be a Chaldean word:

> "This Castel scholde ben Clepid Corbenie,
> And in Caldev was this scripture,
> whiche Is to vndirstonde As be lettrure,
> as this place frely schal be,
> Trosour Of the holy vessel ful Sykerle."

The resemblance of Corbenie to the Biblical *Corban* has been noted by many commentators on the Grail Legend. The true derivation is the Arabic قربان, *Qurbān*, the usual name in the Coptic Church for the Eucharist. The Arabic itself is adopted from the Syriac *Qurbana*, which is the equivalent, in ecclesiastical language, of the Greek Θυσία. The exact meaning of the word is "offering," or more literally "bringing near," and the word-group to which it belongs is found in Hebrew, Arabic, and Syriac. The form Corbenie reproduces exactly the Arabic word *Qurbānī*, the *nisba*-form of the noun, which means "Belonging to the Eucharist." Castle Corbenie then means "The House of the Eucharist."

The little human touch, where Sarracynte as a little girl is frightened of the hermit, is another suggestion of the Egyptian origin of the legend:

> "For Certein he hath A long berd, and An hore,
> And Euere whanne I lokede vppon his berd,
> Sekir, Modir, I scholde ben Aferd."

The cliffs and wadys of Egypt were full of cells and hermits in early Christian times. Most of the hermits neglected their personal appearance, and let both hair and beard grow to a great length, so that the wild appearance of one of these strange solitaries would certainly alarm any child. The reputation for sanctity and for powers of healing, which such men acquired, seems to have been very great, judging from the incidents recounted in the lives of hermit-saints.

A noteworthy fact is that the kingdom of Sarras did not go from father to son. Evalach, a foreigner, was appointed king by his predecessor; on his departure from Sarras (as Mordrayns) he appoints Aganore to succeed him. Evalach is said to have a son, who does not come into the story; there is nothing to show that he is dead, yet he is not Evalach's successor. Later on Galahad and Percival come to Sarras and find King Estourause upon the throne; on his death, Galahad is appointed king. There are two interesting points here, both connected with the names of the foreigners, Evalach and Galahad, who obtain the crown: (1) It is a very suggestive fact that the name Evalach can be derived from Ibn al Ukht,

"the Son of the Sister." Seeing that the right to the throne of Egypt went in the female line, either by inheritance or by marriage, down to as late a period as the Roman Conquest, it is quite possible that the dominion of a small principality like Sarras followed the same custom. Among a people who practise matrilineal descent, brother-and-sister marriage is the common usage; and it is more than likely that in a royal family—which is always more conservative as to ancient customs than families of lower rank—"Sister's Son" might indicate the heir, and be a title, not a name. The great importance of the queen in the narrative points to her being of as high rank as her husband. (2) As regards the reign of Galahad, Maqrizi gives a little information. In speaking of the Goliath (Galūt) whom David killed, he says: "His son Galūt went to Egypt where the kings of Madian were reigning; they installed him in that country as king of the western region, but in the end he went away to the West" (*Bouriant's translation*, M.A.F., XVII, p. 412). The name Goliath, in Hebrew גלית, is rendered in Arabic as جالوت *Gālūt*, in the Koran, جليات *Gilyīt*, in the Synaxarium; the Septuagint has the spelling ΓΟΛΙΑΔ which shows the vocalisation. It is therefore a tri-syllabic name containing the three consonants GLD (or T) and is the Oriental equivalent of the Western form Galaad or Galahad. We have then not only the equation of the name, but the same fact recorded by an Arab historian which is already known to us from European sources, that a foreigner of this name was king of the western side of the Delta. The name Galahad is also connected with Sarras, when Joseph's son Galahad is begotten there. This Galahad was, according to some of the genealogies, the ancestor of Sir Lancelot (whose baptismal name was Galahad) and therefore of the great Sir Galahad, who thus bore a family name.

I have not attempted to discuss the history of Joseph of Arimathaea before his appearance in Egypt, but I cannot help quoting here a story extant in Coptic literature which may account for the mention of St. Philip as the Apostle who taught and baptised Joseph. There was an Egyptian silversmith, named Philip, a Christian, who had a friend named Theodosius, a Jewish priest and a man of high rank in Jerusalem. Philip tried for some time to convert Theodosius, and at last, on one of his journeys in Syria he met Theodosius, who had heard the Virgin Mary herself relate the story of the virgin birth, and had therefore embraced Christianity. "And I, Philip, had great joy with Theodosius the neophyte. And when many of the Jews saw this, knowing that he was one of the teachers of the Law among them, and that he was a ruler over them, and had acquired great honours among them, and then had abandoned all that, and become a Christian, many of them believed and were baptised" (Evetts, *History of the Patriarchs of Alexandria*, in *Patrol. Orient.*, I, p. 134). The account of the virgin birth, as given by Theodosius, is very similar to the dogmatic portions of the Grail legend; and the description of Theodosius himself, and the effect of his conversion upon his friends is practically the same as the account of Joseph of Arimathaea, the parallel being made closer by the name of the Christian teacher.

Indications of Date.

The story by the time it reaches us has obtained many additions and accretions. The latest part is probably the statement of dogma given in the consecration of Josephes, in the dreams and their interpretations, and other doctrinal portions. Of the first of these Mr. Henry Jenner says:

"When Josephes goes into the ark to consecrate, 'il n'i dist ke ches paroles seulement ke ihesus crist dist a ses disciples en la chaine,' and 'si devint tantost li pains chars and li vins sans,' etc. Now this deliberately takes the Western side in what was then a very fierce controversy—whether the consecration was effected by the recitation of the Words of Institution (*Hoc est enim Corpus meum* and *Hic est Calix Sanguinis mei*) or by the subsequent ἐπίκλησις or Invocation of the Holy Spirit, which is found clearly expressed in all Eastern rites, sometimes more or less clearly in the variable 'Post Pridie' prayers in the Hispano-Gallican rites, and vaguely, if at all, in the Roman. It was not until about the twelfth century that men began to inquire about the moment at which the Consecration took place. Until that time they were content to know that when the Priest began '*Hanc igitur oblationem*' bread and wine were on the altar, and when he came to the end of the prayer before the *Paternoster* they had become the Body and Blood of Christ, and that the consecration was effected by the prayer of the Church. The Great Elevation, with the direction '*genuflexus adorat*' and '*ostendit populo*,' after each of Our Lord's words, was introduced about the year 1200, to mark the exact moment, which had been left vague by the Lesser Elevation (which is still made) at the end of the whole prayer. The rather materialistic sequel, 'et lor vit iosephes apiertement ke il tenoit un enfant,' etc., is no doubt directed towards the controversy on transubstantiation raised in the eleventh century by Berengarius of Tours, and not finally settled till the Fourth Lateran Council in 1215."

This part then is European, and therefore lies outside the scope of this inquiry, as it would have been added after the story arrived in England.

The form of the story, and many of the names, are Arabic, the most important name being that of the manuscript, in which apparently occurs the earliest mention of Joseph of Arimathaea, and from which probably the whole legend was derived, namely, the *Book of Melkin*. This shows that the date must be later than the Arab Conquest in 641. The only method of arriving at the date, which can after all only be approximate, is to discover at what period the Arabic manuscript, or a Latin version of it, may have been brought to England. The legend itself is said to have been written by Christ:

> "For ther Neuere was Creature so hardy
> that dorste with-sein this holy story,
> Whiche Crist him self with his Owne hond
> It wrot vs forto don to vndirstond . . . .
> For we ne Radden neuere In non storye
> that Crist him Self wrot Sekerly
> to forn his passiown In Ony stede
> but In two, As we don Rede,
> Whanne to Moises he wrot the lawe . . . .
> the Secund was whanne the Jewes certeinly
> a womman hadden take In Avowtry."

The French version says that the first writing of Christ was the Lord's Prayer which he wrote on stone. In this story we have again that same idea, which appears to be Coptic, of the hand of Christ visibly engaged in some physical action.

Other versions, however, state that the whole account was revealed by God to a hermit. Even Lovelich, in spite of the statement quoted above, that Christ was the actual writer, says, in another place, that it was a hermit who recorded the story [the blank in the second line of the quotation occurs in Furnival's edition]:

"This storye
. . . that myn sire Robert Borron here
From latyn Into frensch translated this Matere,
Next After that holy Ermyt
that god him Self hadde taken it."

The *Perceval le Gallois* and the *Merlin* are very definite. "'Sir,' saith the priest, 'this Castle is the Castle of Inquest, for nought you shall ask whereof it shall not tell you the meaning, by the witness of Joseph, the good clerk and good hermit through whom we have it, and he knoweth it by annunciation of the Holy Ghost'" (*High History*, VI, 11). In the *Merlin* the hermit had once been a knight, he was sister's son to Joseph of Arimathaea, and was called Nascien after Duke Nascien: "and this same knyght was after ravished be the holy goste into the thridde heuene, where he saugh a-pertely the fader, sone, and holy goste. This knyght hadde after the storie in his kepinge, and wrote with his owne hande by comaundement of the grete maister" (xx f., 114 b, ed. Wheatley).

I take this to mean that the manuscript was, traditionally, in the possession of some hermit. The idea of its divine origin may mean that its provenance was lost though there remained a tradition of its antiquity, and of its coming from some country in the East, where Christ had lived; but it is more likely that, like the account of the sacring of Josephes, and the consecration of the church by Benjamin, the divine origin is an integral part of the story, and derives from a Coptic original.

The personality of the hermit may perhaps throw a little light on the origin of the legend. In the *Perceval le Gallois* he is said to have been Josephes: "This high history witnesseth us and recorded that Joseph, who maketh remembrance thereof, was the first priest that sacrificed the body of Our Lord, and forsomuch ought one to believe the words that come of him" (*High History*, IX, 8). Here the hermit was the son, in the *Merlin* he was the nephew, of Joseph of Arimathaea; in other words he was one of the band of Eastern Christians who brought Christianity to the Western shores of Britain.

Leland's opinion about Joseph of Arimathaea is perhaps worth noting in this connection: "I cannot easily believe that Joseph, a disciple of the ever-blessed Christ, was buried at Glastonbury. Yet I might have believed that some very holy hermit of the same name was buried there, and that so this error arose" (*Commentarii Scriptoribus Britannicis*, ed. Hall, pp. 41–42).

The Church of Egypt dates back traditionally to St. Mark, *i.e.*, to the period of the Apostles; and Egypt, always interested in religion, rapidly became a Christian country. From Egypt monasticism and asceticism were introduced into the Western churches: the monastery of St. Antony, the hermits of the Thebaïd, were models which were copied throughout Europe. Christianity was spread by Eastern missionaries, and the British Church claims to have sprung from such a source, whose doctrine had been brought direct from the East without passing through Europe. That there were connections between Egyptian and British Christianity is evidenced by certain definite statements. Eucherius, Bishop of Lyons (died 450), says that Egyptian monks settled in Gaul; other Egyptian monks are known to have settled in Ireland, where they died and were buried. St. Congar of Congresbury, whose staff also miraculously became a tree, was "the son of a Constantinopolitan Prince"; he went to the West of England, and King Ina "bestowed on him that portion of Land, call'd afterward by his name; and withall built for him a Mansion and Oratory there" (Cressy, *Church History*, p. 63,

ed. 1668). This was in "the year of our Lord seaven hundred and eleaven." In Glastonbury the settlement of "hermits" at the foot of the Tor dates from a very early period, and seems from the account to have been conducted on the same system as the Egyptian *laura*. St. Patrick disapproved of the system, and reformed the hermits, bringing them under monastic rule and forming them into a monastery. "And afterwards coming to Glastonbury in A.D. 449, he gathered together twelve brethren, whom he found there living as anchorites. And taking upon himself, although unwillingly, the office of Abbot by the wishes and votes of all, he showed these same brethren how to live the life of the cloister. For it was owing to him that the order of monks at Glastonbury had its origin: of monks ordering their life after the manner of the Egyptians. For that golden star, St. Benedict, had not yet arisen, who should illumine the whole earth with his doctrine and by his example" (Ussher, *Britannicarum ecclesiarum antiquitates*, p. 110, ed. 1639). Here then, I think, we can see a possible way by which the legend, perhaps in the form of the *Book of Melkin*, might come to England. Though it is customary to look upon the Egyptian Christians as bigoted and ignorant, it is very certain that this was not true of all. Learning still flourished in Alexandria, and manuscripts of that early time are still extant, which prove that scholarship and the ability to write large volumes were not uncommon. Such a manuscript as the *Book of Melkin* might well have been brought over by the Egyptian missionaries, and there is no reason why it should not have been in the form of a Latin translation. It undoubtedly belonged to Glastonbury, for John of Glastonbury quotes from it, and Leland actually saw the manuscript, or rather the fragment which still survived, when he visited the Abbey before the Dissolution. This fragment seems to have been treated with very little care, for Leland found it when ransacking the library for ancient books. From the little which he says, it would appear to have contained little, if any, more than the few lines quoted by John of Glastonbury. Leland however states, apparently on the authority of the manuscript, a few biographical details concerning Melkin, whom he takes to have been a real person, born in Wales and trained as a bard. But it is quite possible that the early translator of the Kitabu 'l-Melkiyyin took the latter word to be a personal name, equating it, as John Harding did, with Mewinus. But earlier than either Leland or John of Glastonbury there is mention of a manuscript at Glastonbury which contained the Grail legend. This comes down to us as the *Perceval le Gallois*, which ends with the words: "The Latin from whence this history was drawn into Romance was taken in the Isle of Avalon, in a holy house of religion that standeth at the head of the Moors Adventurous" [*i.e.*, the moors round Glastonbury], "there where King Arthur and Queen Guenievre lie, according to the witness of the good men religious that are therein, that have the whole history thereof, true from the beginning even to the end." This version, as will be seen below, contains indications of an Arabic origin.

As regards the date, or dates, of the story itself, the legend implies that the action takes place in the second half of the first century, about A.D. 75. This is taking the date of the Crucifixion at A.D. 33 and adding to it the forty-two years of Joseph's imprisonment. This accords fairly well with the portions referring to the Christianising of Egypt, which may have begun in the latter part of the first century; but the history of Egypt under Vespasian and Titus shows that the country was at peace, therefore the war between Evalach and Tholome cannot belong to the same stratum. It is a very noticeable fact in the long history of Egypt that whenever there was no central government, or when that government was weak, the country

tended to split up into small states, all more or less at war with one another. When a powerful ruler arose in one of these small principalities and succeeded in conquering his neighbours and annexing their kingdoms, Egypt became a united whole, only to sink again into petty princedoms when the strong hand was relaxed. The war between Evalach and Tholome is evidently one of such internecine wars, following hard upon a similar war in which Evalach had taken part in his youth, when he had been rewarded by obtaining the kingdom of Sarras. From this part of the story, though evidently historical, we can obtain, then, no indication of date, for even the weapons and methods of fighting might belong to any period. The name Tholome also shows only that the form in which the story was told was later than the Ptolemaic era, for a king of a reigning house would not be made into the villain of the piece, but it is no proof that the story itself was so late. As it stands, the description of the campaign might belong to any period of Egyptian history; even the white knight is not necessarily Christian, but might be Horus, whose attributes were taken over by St. George.

The second part offers a piece of negative evidence in the fact that Josephes at his consecration stands free except for the angels holding his arms; whereas from the ninth century onwards, the patriarch was brought in chains to his consecration. Therefore, this part of the story, at any rate, dates before the ninth century.

In the third part of the tale, there are perhaps the clearest indications of date. An account of Pompey's war upon, and destruction of, the Cilician pirates is brought into the chapter concerning Mordrayns' Rock in which the defeat and ghastly fate of the pirate Fowcairs is detailed at length. A fairly sure date, however, is given by the mention of the Persians. These come into the story twice: first, where two ships containing the Persian king and his soldiers, on their way to a campaign in Syria, are driven by stress of weather to take refuge at Celidoine's Island; second, where the messengers find at Alexandria the king of Persia's daughter in a ship full of dead Persian soldiers. There were two Persian wars in the Eastern Mediterranean in the early centuries of the Christian era. In the first, the Persians invaded the Delta at the end of the fifth century; in the second, the Persians under Chosroes II held Egypt for ten years, about 616 to 626. Before invading Egypt Chosroes II had conquered Syria, and it is said that he was there converted to Christianity. In the legend King Labell is on his way to fight in Syria, and he also becomes a Christian. We shall not then be far wrong in putting the third part of the legend at some period after the first quarter of the seventh century.

There is also another point which may help to fix the date, if, as I suppose, the *Book of Melkin* was the origin of this legend. In this Book Christ is spoken of as "the prophet Jesus." In the *Perceval le Gallois* the same expression occurs also: "All these" [*i.e.*, Alain li Gros and his brothers] "died in arms in the service of the Holy Prophet that had renewed the Law by his death" (Evans, *High History*, I, 1). And when King Arthur has had the vision of the Real Presence, the hermit says to him, "God grant you may amend your life in such sort that you may help to do away the evil Law and to exalt the Law that is made new by the crucifixion of the Holy Prophet" (*id. ib.* I, 8). This is not the epithet that a Christian would apply to Christ, but it is precisely the name by which a Mussulman would speak of him. In the Koran, "Jesus, the son of Mary," is mentioned several times as one of the chief prophets of the world, to whom signs and wonders were vouchsafed, but his divinity is explicitly denied as the following quotations will show: "To Jesus, son of Mary, gave we clear proof of his mission, and strengthened him by the Holy Spirit" (*Sura* II), "In the footsteps of the prophets caused we

Jesus, the son of Mary, to follow, confirming the law, which was before him" (*Sura* V), "Jesus is no more than a servant whom we favoured, and proposed as an instance of divine power to the children of Israel" (*Sura* LXI). This, then, seems to show that the *Book of Melkin* dates after the Arab Conquest in 641. The phrase "the prophet Jesus" occurs in *John of Glastonbury* in the story of the Soldan and the captive crusader: "At last he asked, among other things, if he had knowledge of a certain island, situated between two mountains, where rests Joseph ab Arimathia, the noble decurion, who took down the prophet Jesus from the cross." Here the epithet is quite rightly put into the mouth of a Mahomedan, and shows that in the previous quotations the epithet has been derived, possibly with the rest of the story, from an original in which Mahomedan influence occurs.

Reviewing the whole question of dating, it is very clear that we have here a collection of stories and legends of various periods; of which some, such as the story of Pompey and the pirate, date to before the beginning of the Christian era; some, as the account of the Persian king's conversion, to the seventh century. The form in which the story is cast is, in its discursiveness and piety, closely allied to Arabic literature; many of the names are Arabic; and if, as seems possible, the name of the whole collection of stories was the *Book of Melkin*, then they must have been originally written in Arabic, the Arabic name being retained when the manuscript was translated into Latin, though its meaning was lost by later copyists. This would mean that the date must be after the rise of Mahomedan power in the seventh century, but a limit to a late date is set by the mention of Melkin in Asser's *Life of Alfred*. Therefore the date of the *Book of Melkin* lies between the latter half of the seventh century and the earlier half of the ninth. This would bring it to the eighth century, a very likely date in view of the fact that, according to Wolfram, there was an Arabic original for his version of the legend. The Moorish conquest of Spain took place early in the eighth century, after which Arabic manuscripts must have come into Europe. If then there were, besides, a tradition, or possibly even a record, of early Eastern connections at Glastonbury, the Arabic manuscript there would naturally be supposed to refer to, and to be a legacy from, the early period. But that the early part of the eighth century was the date at which the Grail legend, in its connection with Joseph of Arimathaea, began to be current is shown by a statement in Helinand's *Chronicle* under the year 720. "At this time a certain marvellous vision was revealed to a certain hermit in Britain concerning St. Joseph, the decurion who took down from the cross the body of our Lord, as well as the dish in which our Lord supped with his disciples, whereof the history was written out by the said hermit and is called *Of the Graal*." The eighth century is also given as the date of the hermit's vision in de Borron's *Joseph*. "Il auint apres la passion ihesu crist . vij. cens & . xvij. ans ke ie, li plus pechieres des autres pecheours, me gisoie en . j . petit habitacle endroit ichele eure ki est apielee la tierche vigile de la nuit" (Lovelich, *Hist. of Holy Grail*, Early Eng. Text Soc., XX, p. 4). This is also very nearly the date "of 'seaven hundred and eleaven' when the Constantinopolitan Prince" Congar came to Congresbury in Somersetshire, and there planted his staff, which grew into a tree.

In the eleventh century much of the dogmatic portions must have been added; but whether the additions were made in the Latin or were the work of the French translator there is nothing to show.

I am well aware that in the foregoing essay there are many debatable points which require more study; but, in spite of these I think I have proved the point

which I set out to prove, namely, that that portion of the Grail Romance, which relates to Joseph of Arimathaea, is Egyptian in origin.

APPENDIX.—The quotation from the *Book of Melkin* which is given by *John of Glastonbury*, ed. Hearne, 1726:

"Insula Avallonis avida funere paganorum, prae ceteris in orbe ad sepulturam eorum omnium sperulis propheciae vaticinantibus decorata, et in futurum ornata erit altissimum laudantibus. Abbadare, potens in Saphat, paganorum nobilissimus, cum centum quatuor milibus dormicionem ibi accepit. Inter quos Joseph de marmore, ab Arimathia nomine, cepit sompnum perpetuum; et jacet in linea bifurcata, juxta meridianum angulum oratorii, cratibus praeparatis, super potentem adorandum virginem, supradictis sperulatis (or *speculatis*) locum habitantibus tredecim. Habet enim secum Joseph in sarcophago duo fassula alba et argentea, cruore prophetae Ihesu et sudore perimpleta. Cum reperietur ejus sarcophagum integrum illibatum, in futuris videbitur, et erit apertum toto orbi terrarum. Ex tunc nec aqua, nec ros coeli, insulam nobilissimam habitantibus poterit deficere. Per multum tempus ante diem judicialem in Josaphat erunt aperta haec, et viventibus declarata. Huc usque Melkinus."

This statement occurs twice. On p. 30 it is preceded by: "Unde quidem Britonum vates, nomine Melkinus, ita exorsus est"; and on p. 55 by: "Ista scriptura invenitur in libro Melkini, qui fuit ante Merlinum."

M. A. MURRAY.

THE QUEENLY TITLE, XXIIND DYNASTY.

THERE has been much confusion between various princesses and queens of the XXIInd dynasty, owing to a close similarity of their names. As it is very unlikely that half a dozen different queens should all have the same name, the repetition suggests that this is rather an epithet, or title, than a name.

The various forms are :—

Sheshenq I, wife, M.S., XXXI ... ...

Usarken I, wife, L.A., XV; A.B., XIII

Takerat I, wife, L.D., 256–7, P.R., 39 ...

A.Z., XXXIV, iii ...

Usarken II, wife, N.B., 52; Scarab

Rec., XXII, 131

Usarken II, daughter, N.B., 52 ... ...

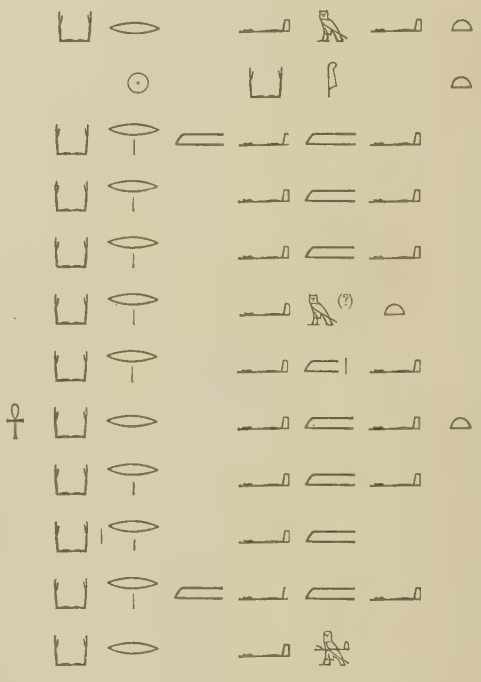
Takerat II, daughter, L.K., 606 ...

Unplaced ... ... L.D., 256, *b*, *c* ...

L.D., 256, *f*, *g* ...

L.D., 256, *h* ...

A.S., IV, 183–6...



At that age was sounded as *ri* or *riya*, hence the word here spelt out was Karimat or Karimot.

Thus the regular title of a princess or queen of the Shishaks was the same as the Arabic for a princess, كريمة, *kerimat*. Originally meaning the "generous," and hence the "noble" or "gracious one," from *kerim*, it is the epithet for a princess, still maintained in Turkish use, and has now become the usual polite word for a daughter in Egypt.

How a Semitic epithet should come into regular use in an Egyptian dynasty, is obvious when we recognise the origin of the name Sheshenq. Shushanqu, "the man of Susa," coming from Semitic Babylonia, naturally kept a familiar title of his home for the princesses of the family.

W. M. F. PETRIE.

PERIODICALS.

Zeitschrift für Aegyptische Sprache, LII, 1915.

SCHÄFER, H.—*Einiges ueber Entstehung und Art der Aegyptischen Kunst.* Prof. Schäfer has written a long and sympathetic article on Egyptian art. He shows that the prehistoric reliefs,—which are so unlike anything that comes later as to have been set down as foreign by even trained observers,—are really the first examples of Egyptian art from which the later characteristics develop. He instances the Paris slate-palette with the bull as the principal example of the early art, and compares it with the palette of Narmer, later in date, and combining the characteristics of archaic art with some of the forms of the "typical" Egyptian art. He then proceeds to argue that true Egyptian art really comes into being about the IInd or IIIrd dynasty; and that from that period down to the Ptolemaic era, all works of pure Egyptian art have something in common which differentiates them from the work of other nations, so much so that anyone, with only a small amount of expert knowledge, could identify a piece of Egyptian sculpture even though found in the heart of Babylonia. Yet the early Egyptian reliefs are not unlike those of ancient Babylonia and Assyria. Thus in Egypt, on a slate palette, there is a scene of a battlefield, full of vivid and ghastly detail, like the vulture-stela of Babylonia and the Assyrian representations. But when the art is fully developed there is no resemblance. In the battle-scenes of the Assyro-Babylonian sculpture we can almost hear the rumbling of the heavy wagons and the thunder of the hoofs: we feel with the soldiers the toil and labour of their profession. In the Egyptian representations, the light chariot of the son of the god flies over the field of battle, while he casts down in great swathes the enemy who fly like sparrows before a hawk: it is the very poetry of the battlefield. Thus the Assyrian excelled in the expression of force, which is apt to give the impression of gloom and ferocity, while the Egyptian art developed a symmetry and humanity, an expression of an inward greatness, to which the Assyrian never attained. In all art there is a continual battle between the creative and the imitative, and the problem is to combine two forces so utterly opposed. No artist, no period, can offer a solution which will avail for other artists and other periods, but the Egyptian obtained a solution of a kind. Taken altogether it is not too much to say that in all antiquity there are no other people, except the Greeks, who so deserve the name of artists as the Egyptians. Prof. Schäfer sets the highest point of development in the XVIIIth dynasty, for there we have the most varied material, and art is so much a principle of the life of the entire nation that it penetrates everywhere, and in the hands of the artist everything takes on an artistic form, down to the implements of daily life. The foundation of the character of Egyptian art was laid in the IInd and IIIrd dynasties, and it is advisable to glance at the extraordinary creative power of the new forces then brought into play. The Paris slate-palette shows, particularly by the treatment of the muscles of the head and legs, that the archaic art was on the way to becoming fossilised. We see the remains of it in the reliefs on the throne of the Khafra statue, which cannot be reconciled with the rest of that statue if one is ignorant of archaic work. The new art then was a return to nature and

simplicity. And it is at this time also that the sublimely simple architectural form, the four-sided pyramid, originated. We have been told that this form is primitive and naturalistic, because theoretically so simple, and that it was derived from the shape of a heap of stones; but, on the contrary, it was the result of centuries of experiment on closely allied forms. Prof. Schäfer contends that the priesthood had little or no influence on art, except where it pertained to the temples only. Even the reaction after the death of Akhenaten was due, not to the priests, but to the natural reaction of artists from an art which was degenerating into caricature. Far greater than the influence of the priests was that of the king. Under a strong ruler, prosperity, and with it all the arts of life, flourished in Egypt; and seeing what an extraordinary concentration of power was in the king's hands, it is not wonderful that his likes and dislikes can be observed in the art. It is not for nothing that the Egyptian architects and artists say, in their own biographical inscriptions, that they had been educated by the king, or had received their instruction from him. Therefore we may speak of a style of Thothmes or of Rameses, just as we speak of a style of Louis XIV. One very remarkable example of the personal relation of the king with art is found at certain times, as under Amenhotep III and IV, when the lineaments of the king are blended with those of his subjects. Although Egyptian history covers a long period of time, the art follows a normal course of development. First, a long period in which there is hardly any art worth the name; then a period of archaic art, which has often great charm. At the end of this archaic period, a few generations of artists, favoured by circumstances, reach a height, which is never surpassed later. Their works establish, at one stroke, the rank of that nation in the artistic history of mankind. That nation has found its artistic speech. All later art is then merely the consolidation of the ground thus taken by assault. The artist refines his mediums more and more, he learns to use them more quickly, and discovers new methods of applying them, but the works of the great creators maintain their place beside these late performances. When at last all new ways have been tried and the creative power of a people nears its end, the artist turns to the imitation of the early works and reproduces them, till by degrees the power is utterly extinguished, and, in the end, even technical dexterity is lost. Three other high points can be distinguished in the art-history of Egypt: the Middle Kingdom, the New Kingdom, and the Late Period. Three times, therefore, the art, with unexampled tenacity, raised itself from decay, for it is not true that the history of Egyptian art shows only a gradual decay from the Old Kingdom onwards. If, then, the theory is accepted that certain definite personalities were the creators of Egyptian art, the question arises as to where these artists worked. Our material is still too scanty to give a definite answer, but one may conjecture that it was Memphis, whose god Ptah was very early looked upon both as the artist of the gods, and as the patron of artists. Who those early artists were it is impossible to say. In Egypt art has always been successfully separated from the individuality of the artist; hardly any work of art is ever signed, for the artist looked upon himself, not always to the advantage of his art, more as a member of a great corporation than as an individual personality. It is, however, worth noting that in the Late period, there was good historical knowledge of the works of Imhetep, the architect of King Zoser of the IIIrd dynasty. In Egypt, as elsewhere, genius could express itself in spite of all hindrance, and mediocrity could only work according to well-tested rule and line, which thus develop into rigid laws. Mediocrity can always be raised by good teaching to a high level, and this was especially the case in Egypt. It is these mediocre works

which flood our Museums, and it is the duty of all scholars to raise the great works of art out of the mass. The history of art should not be a history of mediocrity. The real history of a living art runs always in a narrow line, for it has to do only with the best performances of every period.

KLEBS, LUISE.—*Die Tiefendimension in der Zeichnung des alten Reiches.* (14 illustrations in the text). Miss Klebs has written an extraordinarily interesting paper on the methods used by the Egyptians to represent depth in their drawing. Of perspective, in our sense, they had none; conceptions such as the point of sight, vanishing points, and station point, were entirely foreign to them. All the objects they drew were in silhouette, and they represented, for example, two oxen walking side by side, as a silhouette with a double contour on one side, and with all the feet on the same level. In all drawing the difficulty is to represent an object of three dimensions on a surface of two dimensions; and without perspective the ground, whether landscape or building, is taken out of its horizontal position and set up on end like a wall. The Egyptian drew in this manner, arranging his scenes in registers, the nearest objects being in the lowest register, the farthest away in the highest. The first great step in advance as regards perspective is to represent the apparent diminution of objects in the background, and there is plenty of evidence to show that the Egyptians had made this step. Miss Klebs' paper points out the working of the Egyptian idea of perspective on these two lines: 1. the high horizon with distant objects at the top of the picture and near objects at the bottom; and 2. the diminution of objects at a distance. Thus a whole wall may represent a complete landscape; in the foreground is the Nile with boats; in the next register, *i.e.*, farther away, is a swamp with clap-nets for birds; in a still higher register, is the firm ground where boats are built and fish are dried; in the top register, showing the greatest distance, is the edge of the desert with hunters following game. It is possible to find many examples of such scenes, in which all the registers belong to one another and make a complete picture. The difficulty of representing the deceased in the foreground as a spectator of the scenes which are primarily for his delectation, is overcome by the fact that everything is drawn in profile, so that by placing him at the side of the picture, he faces the other figures. Remembering that the position of an object, either high up or low down on a wall, represents its position in space, it is easy to see why harvest scenes are often represented in two registers, one above the other, rather than in a row along one register. The felled tree and the wine-press scenes are well explained by Miss Klebs. She goes on to show that the Egyptians understood the apparent diminution in the size of figures at a distance from the spectator. Thus, in a desert-hunt gazelles in the background are represented smaller than those in the foreground, and in the wine-pressing scene the fifth man, who is the farthest away and therefore drawn higher up on the wall than the others, is also smaller in size. In the same way the registers decrease in size, the narrowest being at the top; and as the figures are drawn in proportion the larger figures are at the bottom, the smaller at the top. In scenes where the deceased views his flocks and herds, the small creatures, such as birds, are placed in the lowest register, and are drawn large, as being nearest to the spectator; while oxen and other large animals are placed in a higher register, and are proportionately smaller in size. A knowledge of perspective or fore-shortening is also often seen in representations of the human figure. The usual method of drawing the figure was a profile aspect of head and face, the upper part of the body in front view, the lower part of the body in a position half-way between

the front view of the trunk and the profile aspect of the legs. It is amazing what variety of movement the draughtsman managed to express in spite of these limitations. Yet there are many examples of the profile aspect of the body, where the line of the shoulders is shortened and the line of the back is seen. Single limbs are sometimes shown of diminished size, as when a man sits with the leg which is farthest from the spectator, drawn up against his body; though here the Egyptian artist succeeded better with animals than with the human figure. The Egyptian, however, though he had rightly observed the apparent diminution of objects in the depth of a scene, did not venture to apply the rule to a stiff inanimate object, which is the same size along its whole length. The palpable reality of the size of such an object was to them an evidence against the truth of its apparent diminution; thus a tree or a pole was of certain height from top to bottom, a height which could not be diminished, even though the object lay on the ground and went inwards into the picture. "It was different with things which could move, with animals and human beings, who can stoop and squeeze themselves together, stretch out a leg or bend an arm. These the artist dared to draw as he saw them. He possessed a sure feeling for, and an empirical knowledge of, perspective, but had drawn no conclusion from his use of the diminution of objects, and had adduced no law of perspective."

Reisner, G. A.—*Excavations at Kerma (Dongola Province)*. 6 plates. I. The first report gives an account of the excavations of 1912–13. The description of the site is given thus: "The basin falls naturally into two parts—eastern and western—each marked by a large mud-brick structure, called locally the 'Upper Defûfa' (the eastern one) and the 'Lower Defûfa' (the western one). We began with the lower or western Defûfa." The objects discovered around the Defûfa showed "a dated occupation of the site lasting from the Vth to the XVIth dynasties . . . the site of a considerable town, the seat of a garrison, a manufacturing and trading centre, and possibly a smelting place for the Um-en-Abadi gold mines." On the eastern side of the basin are a great number of stone enclosures noticed by Lepsius in 1844. Two of these enclosures were excavated, one measured 84 metres in diameter and contained 66 graves. These were all multiple burials, the chief body being that of a male; the subsidiary bodies were so arranged as to indicate human sacrifice, and their positions suggested that the victims had been buried alive. The other enclosure was rectangular and contained a small building of brick and stone, perhaps a temple. The walls inside were painted with figures of animals. The eastern Defûfa was much like this temple in character; just outside the front door was found an inscription on stone giving the date of the 33rd year of Amenemhat III. The objects found in the graves and in the small temple are of the same period, the time of the Hyksos. Though the scarabs, alabaster vases, and coffins are Egyptian, the great mass of objects are not Egyptian. Prof. Elliot Smith adds a note on the skull of a man.

II. The second report is on the excavations of 1913–14. The low mounds to the east of the eastern Defûfa were excavated; these were all burial tumuli of three main types. The most important find was the fragment of a life-sized statue of that Hepzefa, whose contracts with the priests of the temple of Siût are so well known. His tomb was one of those which contained sacrificed human beings. The cemetery ranges in date from the early XIIth dynasty to the Hyksos period; and the objects found were of Egyptian as well as of local manufacture. The eastern Defûfa proved to be a temple, the western Defûfa a fort. (See the summary of the full report on p. 86.)

NAVILLE, E.—*Le grand réservoir d'Abydos et la tombe d'Osiris.* 3 plates The excavation of one of the most mysterious buildings in Egypt is shortly described. The plan shows a rectangular hall divided by two rows of granite columns; round the sides is a tank for water, so that the inner part of the hall is an island; in the walls are small cells, originally closed by two-leaved doors working on pivots. The centre cell, at the end nearest the temple, is pierced to form a door into an inner hall, into which there was no other entrance. Prof. Naville's conclusion is that the great main hall, built of enormous blocks, is of very early date, as early as the "temple of the Sphinx," or even earlier; but that the reliefs and inscriptions were sculptured in the XIXth dynasty on walls which up to then had been undecorated. The inner hall, however, he thinks was built by the king whose name it bears, Sety I. He considers the great hall to be Strabo's Well, though noting that Prof. Petrie had previously suggested this identification. He also accepts the identification of the building with the cult of Osiris, but prefers to call that portion excavated by the Egyptian Research Account the Menephtheum rather than the Osireion.

SETHE, K.—*Zur Erklärung einiger Denkmaeler aus der Fruhzeit der aegyptischen Kultur.* 3 illustrations. Prof. Sethe here explains some obscure points on two of the sculptured slate palettes. The first of these palettes has on one side a representation of six fortresses or fortified towns being destroyed by animals armed with the hoe. These fortresses are arranged in two rows: in the upper, the destroying animal is a hawk over the first fortress, the other two are obliterated; in the lower row, from right to left, are a lion, a scorpion, and two hawks together. Prof. Sethe argues that these creatures represent the king; thus the hawk, which heads the first row, is the earliest title of the king, and always stands first in the titulary, therefore here it is the first of the animals; the double hawk is a common title of the king in the Ist dynasty, perhaps as the embodiment of the two Horuses of Hierakonpolis and Buto. The lion, which heads the second row, is probably a representation, not a title, of the king, who in later times is often represented as a sphinx and is frequently called "Lion of the Battlefield" and "Fierce Lion." The creature, which attacks the middle fortress of the lower row, is a scorpion. There is a Scorpion-king known at the beginning of the Ist dynasty, a predecessor of Narmer and Aha, who is identical with King Ka, for the sign formerly read is now found to be the cursive writing of the scorpion. (This is impossible, as the sealing and the incised jars certainly read *ka*.) Prof. Sethe therefore sees in this palette a commemoration of a victory obtained by the Scorpion-king. The Reverse side of the palette shows three registers of walking animals, and below them a number of trees and shrubs; Legge has recognised in these the booty of a victorious king. On the right of the trees is a bent staff, , stuck into a pile of earth. This is really the ancient name of Libya, which, in the Old Kingdom is written and reads *Ṯḥnw*. The conclusion is that one side shows the destruction of the Libyan fortresses, and the other side the booty brought from that country. (This was pointed out by Prof. Newberry, in ANCIENT EGYPT, 1915, p. 98.) The second palette is the one which represents a battlefield with birds of prey devouring the dead. In the middle a gigantic lion tears an enemy to pieces. In this lion Prof. Sethe sees the representation of the king. Above, and to the right, are the lower parts of two figures, a prisoner with bound arms being driven forward

by a personage in a long garment, perhaps a goddess. In front of the captive is a peculiar object, which Prof. Sethe explains as the name of a country. The lower part of the object is a pile of earth, precisely like the pile of earth in which stands in the other palette, and therefore equivalent to the of the later hieroglyphs. The upper part of the object appears to be a bundle of reeds, but what sign it represents it is impossible to say owing to its present broken condition.

KEES, H.—*Nachlese zum Opfertanz des aegyptischen Koenigs.* 2 plates and 3 illustrations. This paper, as its name implies, gives some additional examples of the sacred dances. The *Bird-running.*—At Karnak there is a further example of the bird-running of Thothmes III, where Bast is the goddess; and another of Rameses II, with the lion-headed Urt-hekau as the goddess. In the Late Period there is a bird-running of Shabaka usurped by Nectanebo II, and there is one of the Ptolemaic era at Edfû. The text of the last named is interesting as supplementing the text at Dendereh, hitherto the only one known. The parallelism of "image" and "ka" shows how nearly allied these conceptions were among the Egyptians. The bird is not a common offering like the goose, but is a special offering "in order to open the way." The new text makes it clear that the bird was the "image" of the divinity, who was originally Hathor. The *Vase-running* and the *Oar-running.*—There are numerous examples of the period of Sety I and Rameses II, in which one sees the origin of the faults and misunderstandings of later times. The *Sedheb-running.*—An important example is the representation of Thothmes III at Karnak, for it shows not only the two runnings, one for Lower Egypt and one for Upper Egypt, but also the return in the midst of priests, and the enthronement. The throne scene evidently occurs after the running; the king resumes the festival robes which he laid aside for the running, and is enthroned while sacrifices are offered to the god, to whom the running is made, Upuaut, Lord of the Two Lands. We meet here the same idea that is found in the coronation. the *Sed*-festival, and other ceremonies. The god, here according to ancient custom Upuaut, leads the king to the throne, gives him dominion, for which he receives sacrifices as a thank-offering from the king through the *sem*-priest.

SCHAEFER, H.—*Kunstwerke aus der Zeit Amenophis IV.* 26 illustrations. Prof. Schaefer divides this paper into two parts; in the first he deals with the examples of Tell el-Amarna sculpture now in the Berlin Museum; in the second with the sculpture found in a Tell el-Amarna sculptor's studio during the recent excavations. As an admirer of Akhenaten Prof. Schaefer looks upon that king not only as a great reformer, but also as a great artist, and instances the Hymn to the Aten to prove the point. He thinks also that Akhenaten, or Amenophis IV as he prefers to call him, "manifestly possessed a lively and cultivated aesthetic sense and he appears to have found soon a master-sculptor whose works and ideas were congenial to his lord." The well-known wooden head of a queen is definitely stated by Prof. Schaefer to be a portrait of Queen Tyi; the long chin and the haughty mouth being quite recognisable. The beautiful head of a child princess is well known as one of the best pieces of the period. The chief interest of the paper lies in the examples from the studio of the sculptor Thothmes. When the town was deserted after the death of the king and the downfall of his reformation, the works of art—which, more than anything else, bore the impress of Akhenaten's personality—were abandoned as utterly useless, and the sculptor's workshop was

left full of pieces of the greatest interest. Of these by far the finest is the limestone statuette of the queen. The exquisite face with the pathetic childlike mouth shows how appropriate was her name Nefert-ythi, *Beauty comes.* The statuette ranks as one of the masterpieces of Egyptian art. Other fine pieces are the head of Akhenaten in limestone, part of the figure of a princess in sandstone, and a head of another princess. A great number of plaster casts were also found. Prof. Schaefer shows that plaster-casting had a great effect on the art, and that it was not a new thing at this period, but had probably been in use since the Middle Kingdom at least.

MORET, A.—*Serdab et maison du Ka.* M. Moret states a theory founded on an inscription discovered in the serdab of a IVth dynasty tomb near the Great Pyramid. The reading of the inscription should be "The two eyes of the ka-house of Ra-ur." He rejects the idea can mean, like the French *regard*, both *glance* and *window*, and that therefore the inscription refers to the opening from the serdab into the tomb chapel, the serdab being then designated House of the Ka. He considers that means the serdab itself. Thus the two eyes are represented over the false doors of the Old Kingdom, and in the Middle Kingdom on the left side of coffins and sarcophagi at the height of the eyes of the mummy inside the coffin. In both cases the eyes show the place where the eyes of the dead open to look upon the world of the living; the mummy in the sarcophagus, the statue in the serdab behind the false door.

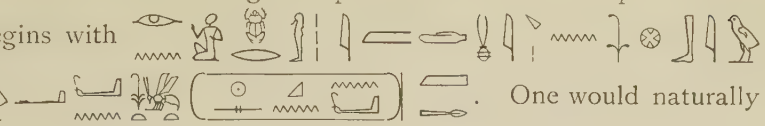
ERMAN, A.—*Saitische Kopien aus Deir el-Bahri.* Ever since N. de G. Davies pointed out that the scenes in the Theban tomb of Aba were copied from the ancient tomb of Aba at Deir el-Gebrawi, similar cases of copying by Saitic artists have been sought for. There is one very clear case which has not been noticed, though the original and the copy are both well known and are situated close together. This is the tomb of Ment-em-hat, in which the scenes of sacrifice have been borrowed from the temple of Deir el-Bahri. In the hall of sacrifice, on the south side of the upper terrace of the temple, there are nine scenes of sacrifice arranged in three rows on each side of the door (Plate CVII of Naville's publication). The copyist could not use them in this order owing to exigencies of space, as he had room for only eight scenes; so he has left out both times the third scene of the middle row. He has so re-arranged the scenes that the lowest row of his original is placed first, the highest last, showing that he viewed the pictures from below upwards. But these alterations are obviously due only to considerations of space; otherwise he has copied the scenes with such slavish fidelity that the representations and scenes of the original can be accurately reproduced. It is therefore quite reasonable to suppose that other scenes in this tomb may have been copied from those parts of the temple which are now destroyed. It is also worth noting that the inscription over the offering bearers in the tomb of Ment-em-hat are practically the same as in the tomb of Aba; even the orthography is the same. Such a coincidence can hardly be accidental; the sculptors of both tombs must have copied from the same original, for we find that the artist of Aba's tomb has borrowed from Deir el-Bahri when his original at Deir el-Gebawi failed him. Copying from an ancient original is found throughout Egyptian history; the scenes of offering bearers are copied from earlier scenes: even the great text of the generation and

exaltation of Hatshepsut are recognisable, by the language and spelling, as coming from a much earlier time. We have part of a similar inscription (*Urkunden*, IV, 258) which, though dating to the XIIth dynasty, cannot have been even then the original source.

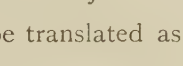
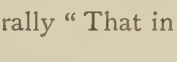
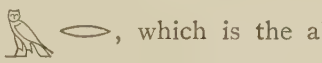
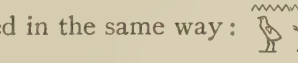
SCHAEFER, H.—*Die Vokallosigkeit des "phoenizischen" Alphabets.* Professor Schaefer argues that picture writing among a Semitic speaking people develops into a vowelless script. A non-Semitic language does not produce a writing without vowels. As no picture writing is known as the immediate precursor of the Phoenician alphabet, he suggests that we shall find the most influential factor in the development of the Phoenician script in some of the neighbouring countries. He rules out the Cretan and Hittite, for, from what we know of them, vowels played a great part in those languages. In Babylonia-Assyria a picture-language is developed into a script by the Sumerians, a non-Semitic people; therefore, though used later by a Semitic people, it retains the use of vowels. The Egyptian then is the only language which has the necessary qualifications to influence what Prof. Schaefer calls the "inner form" of the Phoenician alphabet; for, as he points out, there is historical evidence to show that the inner and outer forms of a script can derive from different sources.

SCHAEFER, H.—*Koenig Huni.* The point which Prof. Schaefer wishes to make is that in writing this name the scribes of the Prisse Papyrus, the Turin Papyrus, and the Sakkara List of Kings, knew what they were about. He calls attention to the fact that the verb *ḥwy* has another form *ḥwny* Therefore the king's name may be written rightly with either form.

SCHAEFER, H.—*Zwei Heldentaten des Ahmase, des Sohnes des Ebene aus Elkab.* This interesting commentary is on two points in the warlike deeds of Aahmes, the son of Abana. The first deed is thus translated by Breasted: "One fought in this Egypt, south of this city. Then I brought away a living captive, a man; I descended into the water. Behold, he was brought as a seizure upon the road of this city (although) I crossed with him over the water. It was announced to the royal herald. Then one presented me with gold in double measure." It was evidently considered something unusual as the capture is given in detail. Prof. Schaefer takes "this city" to refer to Avaris, and then points out that , which Breasted translates *Road* has also the meaning *Side*; the translation would then run: "I brought in a living captive, a man. I went into the water; he was seized (by me) beside the city, I went (back) with him across the water. It was reported to the royal herald." It appears then that the city lay on one side of the river, the Egyptian legions either on the other side or in boats on the stream. Aahmes courageously swam to the enemy's shore, seized one of the hostile warriors, and dragged him, in the face of the foe, through the water back amongst the Egyptian forces. The king obviously recognised the valour of the deed by presenting a double reward. The second heroic act was in the naval action against the rebel , and was of the same character as the first. "I brought two warriors, captured from the ship of Aata." Here again he carried off his captives out of the midst of the enemy, and the reward was again unusual.

Prof. Schaefer adds another interesting interpretation of this inscription. The narrative portion begins with  . One would naturally expect here a sentence like: "I was born in the town of El Kab," and that this is the actual meaning is almost proved by the sentence which follows immediately: "While my father was an officer of King Seqenen-Ra." In fact, "I made my forms" is merely a high-flown way of saying "I was born," for *m rmt* "as a man" is to be understood. In this connection the superscriptions of certain passages in the Book of the Dead are made clearer. Here the expression is translated "To make transformation into." Although this translation is quite possible, it must be remembered that a word does not always have the same meaning on every occasion. We see that in the Aahmes inscription it can mean, "To be born," and in the Book of the Dead it may well bear the same meaning. This is perhaps the true explanation of the famous remark of Herodotus concerning the transmigration of souls.

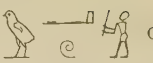
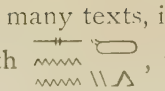
GRAPOW, H.—*Zwei Fragmente einer Handschrift des Nilhymnus in Turin.* These two fragments found in the Turin Museum are supplementary to the already well-known texts of the Hymn to the Nile, and will be of interest to scholars.

ERMAN, A.—*Die Bedeutung der Adjectiva auf-j.* This is an important paper grammatically. It deals with the adjectives derived from prepositions, and points out that this form can often be translated as a relative. This  , which means "List of names," is literally "That in which his name is";  "He in whom are eyes";  , which is the abbreviated form of , "He in whom is the mouth," *i.e.*, he who speaks and commands. The form "Belonging to" can be translated in the same way:  "I who belong to Ra."

PEET, T. E.—*Can* *be used to negative sḏmtf?* In this paper Mr. Peet points out that the *sdmtf* form is not "a mere variant for the infinitive to be used when there is a change of subject," and he therefore argues that Blackman's view of the use of with *sdmtf* is not tenable.

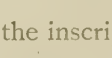
SETHE, K.—*Das perfektische Hilfsverbum wꜣḥ in Demotischen und Koptischen.* This is a discussion on the origin of the form ⲁϩ which is found in relative sentences in Akhmimic, ⲉⲧ-ⲁϩⲥⲱⲧⲙ̄, "who heard."

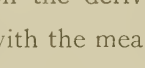
CALICE, GRAF F.—*Das Wort* . This word is generally translated "Infantry officer," but it could be translated "Foot soldier." It may well be the *Nomen unitatis* of the collective , "Troop." The root meaning of is not only "To inherit," but "To be rewarded, to be enfeoffed," so that a soldier is "he who is rewarded a liege man," . Though this translation

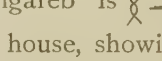
holds good in many texts, it must be remembered that  often appears as a parallel with  , when *snny* means "Officer of the chariotry." But *snny* is more probably the chariot soldier, and not the officer. The conclusion is that the word means "Soldier," used of all grades in the same way that we ourselves use it.

HOEHNE, G.—*Drei Koptisch-saidische Texte aus der Koeniglichen Bibliothek zu Berlin.* These three fragments are: 1, a biography of Pachom of Tabenese; 2, a sermon; 3, speeches of Jesus to his mother. The first gives the story of the crocodile which surprised Pachom and his brother Iohannes on the banks of the Nile; the second is a denunciation of a heretic; the third is a fragment of an adoration of the Virgin.

MISCELLANEOUS.

SETHE, K.—The dating of the inscriptions of  , son of , the chieftain of Hermonthis, can be accurately fixed by the example now in London, in which occurs the group . This can only be the throne name of Mentuhetep III written without the cartouche.

SETHE, K.—This is a short discussion on the derivation of the Greek Βίος ἀπρόσκορος from the Egyptian or  , with the meaning "Immortal life."

CALICE, GRAF F.—The word for "bed" or "angareb" is  , and it is found in an inventory of a peasant or artizan's house, showing that, like the *angareb* in Nubia, it was an indispensable piece or household furniture.

WIESMANN, H.—The combination of **ⲣⲉⲕ-** with the qualitative is very rare, but in addition to **ⲣⲉⲕⲱⲟⲩⲧ** and its dialectical variants only two other examples are known, **ⲣⲉⲕⲃⲏϫ**, and the one now brought forward **ⲣⲉⲕϧⲏⲣ.**

WIESMANN, H.—This, an interesting note on the origin of the word *adobe*, which means an unburnt brick dried in the sun. It derives from the Egyptian or , which becomes in Coptic **ⲧⲱⲃⲉ**, in Arabic طوب. From Arabic it passed into Spanish, thence it was carried to Mexico, and finally was adopted, still keeping its ancient meaning, into the modern speech of America.

REVIEWS.

Early Egyptian Records of Travel.—By DAVID PATON. Vol. I, 4to, 90 pp. 32*s.* 6*d.* 1915. (Princeton University Press, Oxford University Press.)

This is one of the carefully detailed books of reference, which we begin to expect from American scholarship.

The first volume covers the whole of the period from the beginning of the Ist dynasty to the end of the XVIIth. It aims at being exhaustive by giving a reference to every mention of a foreign country in any text of that early period. The texts are not all given in full, but in every case sufficient is quoted to make the quotation perfectly intelligible.

The book is not printed, but typed, and the typed sheets photographed; on looking at the elaborate tables the reader fully endorses the appreciation, which the author bestows on Mr. George Vincent Welter, who did this work.

The tables are arranged in vertical columns, and are carried across two pages. Thus, counting from right to left, the first column contains the geographical names mentioned in the text; the second, the translation of the text, the chief variant translations being also given; the third, the transliteration with occasional grammatical notes. The fourth column contains an elaborate transliteration, in which every sign, other than alphabetic, is numbered according to the numeration of the Table of Signs in Erman's Egyptian Grammar; it is thus possible to reconstruct the original reading of any word when the original itself is not at hand. In the fifth column, or series of columns, on the extreme left, are the references to every line of the quotation in the principal publications of the text. Every text is preceded by a short introduction, giving as far as possible all that is known and all that has been published on that inscription or papyrus.

The book is consequently of great value to all students of early geography and early history as well as to Egyptologists. To the last it is invaluable on account of the mass of accurate detail which it contains.

There are, however, a few arrangements which might well be amended in a second volume. Each text is comprised in a table, and each table is numbered; but beyond this, there is no system by which reference can be made to the pages; there are no page headings and no page numbers. The tale of Sanehat, for instance, covers twenty double pages, with introduction and text; but there is no means of distinguishing at a glance those pages from one anotber, or from the pages devoted to other texts. A book of reference should be essentially a book to which it is easy to refer, and the want of some method to make reference easy is a serious defect. The references to publications, given in the introductions, would be better in alphabetical order. The plan of the Palermo Stone has been placed sideways on the page without any reason; it would have been better to have placed it vertically.

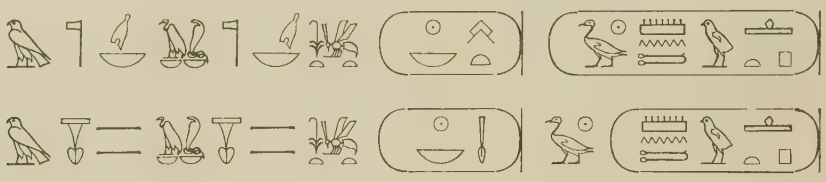
As regards the transliteration and translation, there are a few emendations to be suggested. Amongst others, *šȝt* the name of the first season of the year, is now read *ʾiȝḫt*; *ḥrrïw-šˁ* is probably more correct than *ḥrrw-šˁ*; three out of the four Hebrew equivalents given are wrong letters; and the deity of wisdom, Seshat, is a goddess, not a god.

M. A. M.

The Theban Necropolis in the Middle Kingdom.—H. E. WINLOCK. (From the American Journal of Semitic Languages and Literature, Oct., 1915.)

It is unfortunate that important papers are so often scattered in unlikely places. The present subject is neither Semitic, nor Language, nor Literature, but an important study in archaeology. The main new idea is that the large courts, with colonnades and tombs cut in their sides, in the Antef cemetery north of the Valley of the Kings, were the tombs of the earlier Antefs; also that the Mentuhetep temple of Deir el-Bahri, and another begun to the south of that, were enlargements of the same idea. A map of the Theban cemetery in the Middle Kingdom clears up the view, without the complication of the great mass of later remains.

The whole form of the XIth dynasty as discussed by previous writers is reviewed in detail, an excellent study of a complex subject. The whole of the monuments are considered, and this is a review of facts rather than mere opinions. One of the main questions is the history of the Deir el-Bahri temple. There two separate royal title-groups are found, and from their relation Mr. Winlock concludes that they truly represent two different kings, as follows:—



The first of these kings consolidated the Theban kingdom by the conquest of Herakleopolis, and ruled all Egypt energetically.

The second of these kings, in a reign of nearly half a century, strengthened the kingdom, and rose beyond all trace of barbarism in his work. He remodelled the Deir el-Bahri temple, so that the original form is obscured. Nebtauira Mentuhetep was his son and co-regent; Sonkhkara was the last of the dynasty.

Thus the whole dynasty is reconstructed as follows:—

1. Nomarch of Thebes, Antef.
2. Prince Antef, son of Akua,
3. Prince Antef, of Karnak list,
4. Prince of Upper Egypt, Antef,

} possibly one person.

5. Horus Uah-onkh, Antef-oă I.
6. Horus Nekht Neb-tef-nefer, Antef II.
7. Horus Sonkh-ab-taui, Mentuhetep I.
8. Neb-hapt-ra, Mentuhetep II.
9. Neb-hept-ra, Mentuhetep III.
10. Neb-taui-ra, Mentuhetep IV.
11. Sonkh-kara, Mentuhetep V.

This reckoning does not account for Neb-hetep *să ra* Mentuhetep, whose Falcon and Nebti names are the same as those of No. 8. It also assumes the late date of Nub-kheper-ra Antef, which is flatly contradicted by the style of his scarabs, closely like those of Senusert I. Nor does it include Qa-ka-ra Antef. Also the king's son Antef of Shut er-Rigaleh is put down as a vassal of Neb-hept-ra, No. 9, although he has a cartouche and the epithet *onkh zetta*. A vassal of such importance between Thebes and Silsileh is very unlikely. There seems no reason for this Antef not having succeeded Neb-hept-ra. Thus we are by no means at the end of the difficulties about this dynasty.

A useful clearance of an error is made regarding the Antef pyramids. The common idea is proved to be entirely mistaken of a mud-brick pyramid, published by Prisse, belonging to an Antef; that being a Saite building at the mouth of the Assasif. Further, the brick pyramids on Drah abu 'l-Naga are of the XVIIIth and XIXth dynasties. The only known locality of Antef monuments is shown to be the Antef cemetery, north of the King's Valley. Three great sunken courts, with tombs opening off the sides of them, are attributed to Antef I (by his stele), Antef II, and Mentuhetep I, by the relative positions on the ground.

From this view of the great tomb courts, with the king buried at the head, and the courtiers along the sides, Mr. Winlock passes to a resemblance in the temple of Mentuhetep II and III, with a long approach flanked by tombs of courtiers. Further, the plan and views are given of a great unfinished cutting and banking which ran up to a very similar position behind Sheykh Abd el-Qurneh, which suggests that Neb-taui-ra or Sonkh-kara was preparing a similar tomb in that region. The tombs of courtiers flank the causeway, one being that very prominent colonnade on the top of Abd el-Qurneh hill; it is disappointingly blank owing to its being of the XIth and not of the XVIIIth dynasty. It is supposed that this royal tomb was not yet finished when the capital was transferred by Amenemhot I to Lisht. If this were so, then the unfinished tomb would be of Sonkhkara, and that of Neb-taui-ra is yet unplaced. There is a possibility, not yet suggested, that Hatshepsut used the site of an earlier temple, and reconstructed it; this might account for the temple and tomb of Nebtauira. Otherwise it might be worth searching in the valleys below the northern peak which is covered by Sonkhkara's *sed heb* temple, in case his tomb was placed below his temple.

This paper is the first well-reasoned view of the early Theban cemetery, and it suggests a whole system of researches on a scientific basis. The Government could not do better than put all Western Thebes under the direction of Mr. Winlock, with complete control of all excavations that may be undertaken there, so as to co-ordinate the entire work of different nationalities into a systematic whole, and solve the many historical questions that might be thus settled.

Bulletin of the Metropolitan Museum of Art. 10 cents, monthly. New York. June, September, October, November, December, 1915, February, 1916.

These recent numbers have special interest for Egyptian students. Last June there is an account, with photographs, of the heart scarab of Queen Amenardas. It was presented, with a group of small Egyptian objects, by a lady, apparently the result of tourist gleaning in Egypt about 1906. Happily it is safe now in the Museum. The body is thin and flat, like late heart scarabs; it is said to be of green porphyry; the cutting is very clear, though the forms are poor; the inscription is the usual chapter of the heart. The various *ushabtis* of this queen, cut in dark brown serpentine, have been known for many years; this heart scarab confirms the opening of the tomb in modern times, though its position is quite unknown to historians.

Another paper is on a group of gold pendants, between the XXth and XXVth dynasties. The seventeen rams' heads suggest the Ethiopian dynasty; there are also fifteen gold flies and six of the aegis of Bast or Sekhmet. With this journal is also a supplement on jewellery in the Museum, issued to encourage jewellers to study it. A fine complete bead collar of the XIIth dynasty is shown; but all the other jewellery is Greek, Cypriote, Etruscan, Roman, Byzantine, or later.

The September number gives an account of the educational value of the Museum. "All of the museums have been energetically spreading the news of their willingness to co-operate with the public schools, to help designers, and to assist members to a better understanding of their own institutions." There follows a list of forty lectures on various subjects, from two to six in a course. School handbooks on Ancient and European history are also being prepared. We may add that similarly Prof. Breasted, at Chicago, has been concentrating on preparing school manuals on history, and almost suspended his Egyptian studies in consequence. The United States will soon no longer look on the Old World as something detached and apart, but will have a keener sense of history than we have. An English scholar might contemn the popular style of some of the lectures announced at New York; but it is just because that education of the public has been despised here, that now the public cannot understand research, and will not further it, but sleepily agree to close our museums.

Other branches of museum activity are the lending of sets of photographs fully labelled, along with books on the subject of the set, to the Public Library, to spread general knowledge of them. Such sets, changed from time to time, will open many minds to regions entirely unknown before. Co-operation with High School classes is also actively worked.

Models of the most important buildings in the world, to a large scale of one-twentieth, serve to give reality to what would otherwise be only a bookish impression. Such a scale enables the minute detail of decoration to be shown, so that real study is promoted. There is a large demand for loans of lantern slides, 379 borrowers in the year. The most wanted were sets of pictures, next architecture, then ancient and modern life in different countries; while less required were sculpture, furniture, tapestry, etc. This is the way to reach a million people, from whom will come a thousand students, who may in turn produce ten men to seriously advance our general knowledge. Without such education of the public the position is almost hopeless.

The Egyptian section has advanced, with study rooms provided for the material and records required by students, keeping the open galleries for the education of the public.

The Museum staffs are the true educators of the public, and they understand their function at New York. Not only do they help the specialist, who knows exactly what he wants, but they help the vacuously minded to feed the smallest intellectual hunger, in order that the mind may grow by what it feeds upon. Let us always remember from what unpromising beginnings many of our greatest workers have come. A Murchison, a Faraday, a Rayleigh, a George Smith, have all been due to fresh impulses in their lives, which might have been expected to take quite different shapes.

The October number states the effect of the war in suspending American work in Egypt on excavation at Lisht, while the work at Thebes and copying of the Theban tombs under Mr. Davies was continued as before. A statement is made as to the artistic property of Mr. Theodore M. Davis, which he bequeathed entirely to the Metropolitan Museum of New York. This gathering was not only artistic in general but contained some of the duplicates from the discoveries of the Tombs of the Kings. It is an important addition to the public treasures of America.

The November *Bulletin* has on the front of it all that will ever be seen of the funeral figure of Nekht, whose tomb is so well known at Thebes. This figure had lain safe and perfect in the pit of the tomb until excavated last year. Despatched

on the "Arabic," with much else, it was sunk off Ireland by a German submarine. Since then nothing more is to be shipped to the New York Museum until the war and its perils are finished.

Mr. Davies gives an account of the interesting work that he has been doing on the Theban tombs. The great tomb of Surer was finally cleared; and this chamberlain of Amenhetep III is now seen to have provided for himself one of the finest of private tombs. After the front court is a hall with ten columns across it, and ten behind these. Then a hall seventy-four feet long with an avenue of ten

FIGURE OF NEKHT HOLDING STELE OF ADORATION TO RA.
FOUND IN HIS TOMB. SUNK IN THE "ARABIC."

columns on either hand. Behind that a hall with twenty-four columns; and finally a chamber with six columns containing the burial pits. The remaining sculptures are of the finest work of the XVIIIth dynasty; but unfortunately Surer had clung to the Amen party, and hence his tomb was mainly wrecked by the Aten party, and most of its decoration and furniture destroyed.

The well-known tomb of Puamra, with figures of the two obelisks and the architects, was cleared. The difficulties showed the extraordinary condition of

underground Qurneh. The rock is so honeycombed with passages, and these have been so often broken through from one to another, that when one is cleared the filling of the others runs down at all the breaks, and the whole neighbourhood begins to subside in patches like a salt mine district. The native dwellings crowded among the tombs soon felt the effects, and the subsiding occupants protested against such unseen dangers. The chambers in one part were three stories deep. The burial of Puamra was reached by a well in the courtyard, a sloping passage, two stairways and two intermediate chambers ; the body had of course been long ago destroyed. The tombs of Userhat and Tehutiemhet were also cleared.

The bright and fresh little tomb of Nekht is one of the most popular of the Theban cemetery. This was cleared and the statue was found, whose loss we have above mentioned. The main work of Mr. Davies himself has been in copying, with assistants, part or the whole of seven of the painted tombs.

In the December number is an account of the excavations at Thebes on the site of the palace of Amenhetep III. The building uncovered has much the same arrangement as that for the king's own use, and it is supposed to have been for a queen or prince, perhaps part of a general quarter for the royal children. Much else still remains to be cleared in this region.

In the February number is an account of the moving of one of the mastabas of the Old Kingdom from Saqqareh to New York Museum. Not only there, but to several other countries whole mastabas have been removed; Berlin and Brussels show such examples. England—in charge of Egypt—has not a single specimen of a construction on such a scale.

Museum of Fine Arts Bulletin. Boston. December, 1915.

This number is occupied with a considerable account of the important excavations in Nubia by Dr. Reisner. This is in continuation of the work at Kerma, which we summarised in ANCIENT EGYPT, 1914, p. 138. The further examination of the skeletons has shown that the chieftains who were found lying on couches in the graves were Egyptians, and the people buried with them were Nubians. Further work on the purely Nubian graves has produced burials of Nubian chiefs, in large circular pits with one to three women and from five to thirty goats. The Egyptian rulers extended this custom to having from ten to thirty human sacrifices. These burials were covered by tumuli of earth.

Three great tumuli far exceeded the others : these were found to be the burials of Egyptian governors of the Sudan during the Middle Kingdom. The greatest surprise was when one of these burials proved to be that of Hepzefa, whose immense rock tomb is so well known at Siut under Senusert I. In that tomb—now called the Stabl Antar—there are long contracts regarding the supply of offerings to his statues in the tomb. We now know that the magnificent sepulchre which he had provided for himself as chief of the nome, served only for his statues and *ka* offerings. He really died in his distant governorship, more than five hundred miles away, and was buried with all the regal barbaric pomp of the Sudan.

The tomb was an immense mound, three hundred feet across, outlined by a low wall. Across the circle, from side to side, ran a brick-walled corridor seven or eight feet wide. At the middle of this opened on one side the brick-vaulted burial chamber. After the funeral some three hundred Nubians, men, women and children were strangled and laid out along the corridor, which was, in fact, the antechamber of slaves before the tomb. With these sacrificed Nubians were

personal ornaments, sometimes pottery and, rarely, weapons. Over the whole mound was laid a coating of mud bricks ; on the top a great pyramidion of quartzite, and probably a chapel for offerings, in which stood the statues of Hepzefa and his wife Sennu, which were found fallen down into pits dug by plunderers. The figure of Hepzefa had been much broken, only a stump of throne remaining : that of the wife was perfect. At the funeral feast over a thousand oxen were sacrificed, and their skulls buried around the great mound on its southern side.

Some time after the great burial, it was the custom to dig into the mound and line pits with loose bricks to serve as graves. In these were bodies lying on wooden couches with offerings. The whole mound, when it became weathered, was outlined with a band of dark stone chips, and sprinkled over with white pebbles.

In another of the great mounds was a statue of Khu-taui-ra, the first king of the XIIIth dynasty. Some fifteen or twenty large mounds, not quite of the vice-regal size, are probably the graves of other high officials and chiefs.

The objects found in these burials are of two classes, Egyptian and Sudani. The statues, the alabaster vases, the copper mirrors and knives, and some of the scarabs and pottery, are pure Egyptian. The bulk of the pottery—293 different forms—part of the scarabs, and the glazed pottery, was of local manufacture. The forms of the alabaster vases are what we know well to belong to the XIIth dynasty : large globular vases, drop-shaped vases, and trumpet-mouthed kohl-pots. One squat form has not been dated before. The copper mirrors are mostly of the type with two hawks below the disc, a head of Hathor between them, and a handle of plaited or braided wire pattern. The copper knives are, some, of the straight back style of the XIIth dynasty ; but others are curved backward, and two have gazelle leg handles. If these are certainly of the Middle Kingdom they will give a useful date, as such forms have been attributed to the New Kingdom. The daggers are all of the type with a large flat ivory handle, as Gardner Wilkinson, fig. 46. This form is rare in Egypt, and we may now gather that it is Sudani of the Middle Kingdom. No tools whatever were found, only daggers and personal implements.

The most surprising local product is the glazed pottery. As all over the site are the half-glazed pebbles used in the furnace floors, there can be no doubt as to the work being local. Many pieces of wasters of glazed ware also showed this. There is not only blue-glazed pottery, but also quartzite and quartz crystal with blue or green glazing. There were "bowls, pear-shaped and globular pots, cylindrical cups, jugs, rilled beakers, and covers, and kohl-pots ; mace-heads, imitation shells, hippopotami, lions, scorpions, amulets, plaques, models of boats, figures of boatmen, inlay pieces, and tiles of many types. The inlays were used to decorate ivory boxes and sandstone ceiling slabs. The tiles were used to decorate walls and large pottery vessels. Parts of several lions in relief were found which had apparently been fastened on the walls of the temple in Mound II. The decorations on all forms of faience were in black line drawing on a blue ground." This latter reminds us of the hundreds of pieces of blue plaques and objects with black drawings found in the temple of Serabīt of the XVIIIth dynasty.

The native pottery has some affinity with the prehistoric forms of Egypt, though no one piece could be mistaken as being of that family. Bird-shaped vases and spouted vases are like the older types. A tall beaker with wide spiral groove around it, and fluted below, seems evidently a copy of metal work, probably in gold. We are assured that the black pottery is polished with blacklead ; as

the lustrous magnetite is extremely like blacklead, the evidences as to the material should be put beyond question by a chemist. Other little jugs, with incised patterns. are of the family so well known in the Delta graves of the Hyksos, and were probably carried to Nubia.

The seals of ivory with geometrical designs "are undoubtedly of local origin. The patterns are combinations of crossed lines, such as do not occur in Egypt." The whole of these certainly need careful study and comparison.

We greatly hope that Dr. Reisner will thoroughly publish all of this material, separating each group of objects which are certainly contemporary, such as those with the three hundred Nubian burials of one date. There will be thus a large extent of material by which to standardise our dating of the smaller arts. This discovery is of great value for purely Egyptian dating, as well as for the relations of Egypt and the Sudan, and the high and strange civilisation shown by the Sudani glazed ware and pottery.

The Rock Tombs of Meir. Part III.—AYLWARD M. BLACKMAN. 36 pp., 39 plates, 4to. 25*s.* 1915. (Egypt Exploration Fund.)

The continuation of this series is on the same complete plan as the previous parts; unfortunately, the diversity of scales is continued, the outline sheets alone being $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, or $\frac{1}{7}$, while the five coloured plates are to four different scales. This needless disregard of scale is a serious hindrance of understanding the relation of parts in their positions and their sizes; it is hardly ever needful to change scales in one series, as see the copies of *Medum* and *Deshasheh*, each uniform.

The volume is entirely occupied by one tomb, that of Ukh-hetep, son of Ukh-hetep and Mersa, in the reign of Amenemhat II. The outline plates give all the subjects complete, but a key sheet is somewhat needed. Five coloured plates show the more interesting details, and the seven plates of photographs give general views and the better preserved scenes. The subjects of the scenes are not of the same importance as in the previous volumes, being all parallel to those in well-known tombs. The two new points of value are, (1) A charming piece of decoration, well given in colour, most nearly like a pattern in Prisse, *Art*, but simpler, and here well dated; and (2) The list of previous nomarchs.

The list of nomarchs is the first document, outside of the lists of kings, which carries through from the XIIth back to the Vth dynasty. It is, therefore, of value as historical evidence of the periods involved. In order to accommodate it to the arbitrary dating of Berlin, the average of rule of a nomarch is assumed by Mr. Blackman at 15 years, which is absurd for any such series. Though sometimes brothers succeeded one another in office, yet at other times sons died before their fathers and grandsons succeeded. The average of the Jewish kings is 23 years each, of the XVIIIth dynasty from Aahmes to Akhenaten 24 years each, of the English kings from the Conquest, 23 years. Such must therefore be accepted for a family succession of rulers, with an average of irregularities of all sorts. Accepting this general value, the fixed points in the series of nomarchs, and according to the chronology given by the Egyptians, is:—

	REIGN.	B.C.	BY KINGS' LISTS.
No. 1.	Senusert I	3515	= 3515.
No. 21.	IX–Xth dynasty. .	3815	= 3600–3900.
No. 36.	Pepy II	4320	= 4185.
No. 39.	Nefer-khou. . . .	4415	= 4405.

The last is the best fixed point, as the falcon name of king Nefer-ra (V, 5) is not in the least likely to be adopted later. Here we see that the list shows the general scale of the history to have been correctly given by the Egyptians themselves, and is one more impossibility in the arbitrary fancies of Berlin dating. The last two registers of the list appear to be of additional names, probably of rulers who were appointed outside of the family succession. No. 48 being probably of the XIth dynasty, and 58 of about the same time. Mr. Blackman is to be congratulated on having saved so much of what Egypt has done its worst to destroy in the last fifty years.

The Manchester Museum. Report for 1914–15.

A Museum Report is usually of individual rather than general interest. Here, however, is described an experiment which may well spread in this country. Many schools in Manchester were requisitioned for military purposes, and the scholars had to share half time in other schools. There were thus many children displaced for half their time. These have now been kept in hand by a system of elementary science and history teaching in the Museum. "Eight classes—of one hour's duration—are held daily, four by each teacher; two in the morning and two in the afternoon. Each lesson consists of from thirty to forty minutes' instruction in the class room, followed by a tour of the cases in the Museum dealing with the particular subject taught." Manchester Museum is particularly well fitted for such teaching, as there is a fine series of all the orders and principal species of animals, a fine series of fossils and minerals, and an unusually interesting and complete collection of Egyptian history and daily life. This is the true way to bring Museum knowledge into the common fund of information, instead of the "moral bankruptcy" of closing museums, for which we deserve the Continental despite.

Journal of the Manchester Egyptian and Oriental Society, 1914–15. 8vo, 63 pp. 1915. 5*s*.

Beside the current business and short reports of papers, this Journal contains some longer articles, especially pp. 27–48, by Mr. Peet, on "The Early Relations of Egypt and Asia." In prehistoric days the lazuli is doubted by Mr. Peet as coming from Persia, on the ground that it might be in the Eastern desert. As, however, it would be very unlikely that obsidian should be obtained nearer than the Aegean Islands, it must be granted that there was an extent of trade which makes the Persian route quite likely. The plaque of Den bears a figure which appears to be called an eastern. In Sinai, Semerkhet is shown smiting a Sinaitic chief. The Ist dynasty ends with the figure labelled with the place-name Setet. This name, however, may be either Asiatic or from the Cataract region; as the head is distinctly like the Libyan, it is more likely to be from the Cataract, where the early population had Libyan characteristics. Thus Den and Semerkhet show fighting over the Eastern frontier, but whether as far as Palestine, is not at all settled.

In the Old Kingdom Khufu records at Sinai the "Smiting the Anu," but the Anu seems to be a generic term for barbarians. Sahura in the Vth dynasty smites "the Mentu and all countries"; Ne-user-ra states the same. On his temple of Abusir are excellent typical figures of Libyans, Puntites and Asiatics. The same figures appear among the prisoners of Sahura, also two other types of bearded Asiatics. In the VIth dynasty Una records the defeat of the "Aamu who are upon the sand," meaning the desert between Egypt and Palestine, showing that the

Egyptian was not yet holding any of Palestine. These same Aamu extended down the Red Sea shore, as they were defeated when the Egyptians were building a boat to go to Punt.

During the VIIth to Xth dynasties an Asiatic invasion of Egypt can be discovered. Ameny = Amenemhat I is described as ejecting the Aamu, and building the wall across the Wady Tumilat to exclude them. In a papyrus of admonitions to King Merykara of the IXth dynasty, his father describes defeating the Aamu. A later papyrus, of Leiden, was probably copied from one about the XIIth dynasty, and it describes the foreigners in the Delta, and civil war throughout Egypt. All of this agrees with the archaeological evidence not touched by Mr. Peet. The abundant button seals begin in the VIth dynasty, and were mostly about the VIIth and VIIIth; their designs are always foreign, though often copied from Egyptian figures; and similar patterns have been found at Aleppo and Bismiyeh in Mesopotamia.

The Middle Kingdom knew much more of Palestine. Neb-hetep Mentuhetep figures captives of Nubia, Libya, and Asiatics; but whether the latter were still in the Delta, or farther out, is not stated. Neb-hept-ra Mentuhetep mentions fighting Aamu and Mentu Asiatics; this might yet be in the Delta. Under . . . . . there is the inscription of Sebek-khu naming a war at Sekmem and the land of Retenu, where he fought with Aamu. This shows penetration into Palestine, though how far is not clear. A few other references to Asiatics do not take us any farther. The mention of Aam as a class of temple servants strongly suggests the taking captive of many of the Aamu; as in later times, Pakharu, "the Syrian," was a common personal name, like Mr. French in England. This paper makes us see how very uncertain is still our early geographical knowledge.

Prof. Rhys Davids discusses "The Beginnings of Religion." This deals with the broad question of whether we are to take the beliefs and practices of the less civilised races as typical of ancient thought, or whether we should take the study of an ancient religion as a basis. Prof. Davids begins by begging the question. "It is comparatively easy to decide which of these two methods is to be preferred," choosing himself the latter course, in opposition to the whole of the Tylor-Lang-Frazer school. The difficulty of realising the sentiments of modern peoples is taken as an argument against supposing that we can understand the barbaric and savage peoples of the present. But it is a far stronger argument against assuming that we can understand the development of any people of the past. The work of Foucart in favour of adopting our knowledge of Egyptian beliefs as typical, rather than any ideas of modern peoples, is upheld as the best type for such studies.

Now all this is part of a system of thought which has been far too prevalent recently, whether in economics, politics, history, religion, or many other departments. It is a habit of looking at the difficulties of one side of a subject, and deciding that it is impossible to accept it, and that therefore the opposite view must be true. It is a very specious method for those who do not know all the facts, and leads to a comforting self-assurance, which waives aside everything else that may be said. The only real road to a conclusion on any subject is to balance evidence. One side may be clearly improbable; but if the only alternative is still more improbable, or impossible, we must for the present accept the least improbable view.

In the study of comparative religion, whatever difficulty we have in entering into the thoughts of a modern man of another race, the difficulty is far greater if we try to understand an ancient man's thoughts. The modern can be watched in his

actions, he is not only known by some scanty remains; he can be studied over and over again, the evidences about him are not limited to a few discoveries or writings; above all he can be interrogated indefinitely to clear up questions, and often the more enlightened men will describe their own beliefs and practices in detail, whereas the ancient is dumb and can only be understood by what has chanced to survive to our time.

To take the documents that remain to us about any ancient religion, and ignore all the living parallels which explain them, would be like studying only the bones of fossil animals, and ignoring the parallels of living animals which show how the bones were worked by muscles, covered by tissues, and co-operated in the constant maintenance of the health and abilities of the animal. From a single bone much may be restored to view, of the construction and place in nature of the living structure now perished; but this can only be done by strictly comparative method, and utilising every analogy with present structures. So in the history of religious thought the one or two fossil fragments that we may have, about some class of ideas, can only be interpreted by the fullest comparison with similar thought still surviving, which can be analysed at leisure and cross-questioned in detail. It must be the modern examples which alone can restore to some similitude of life the ancient specimens.

Our knowledge of Egyptian practices is considerable; but we are yet very ignorant of the ideas and motives which lay behind those practices. How far the idea has perished while the practice continued, how far fresh ideas had arisen as false interpretations of the practices, whether we have ever yet grasped the idea at any period,—all this is yet quite vague to us. Take the most obvious matters, and see how blind we still are as to the meanings which must have been familiar to every Egyptian, about the *ka*, transmigration, intercession (on which an entirely new light has arisen, see our last number, p. 35), prayer, and influence of the gods. On any of these points five minutes' talk with an educated ancient would be worth more than all we now know. How can such fossil fragments compare in value with the full study that is made of any modern beliefs?

Thus the objection that the modern beliefs may not be correct interpreters for ancient times is a trivial difficulty compared with the obscurity of our knowledge of the past. The only logical course is to gather all we possibly can of the fossil practices, and then clothe them with a living structure of ideas by means of the nearest parallels in modern thought.

Prof. Elliot Smith states the supposed parallels between Egypt and other lands of "Oriental Tombs and Temples"; this is a statement of resemblances which does not carry conviction to most minds. When we read of a "temporary spiral causeway made for constructional purposes" round a pyramid, it is as well to warn readers that such statements have no accepted ground.

An encomium of the late Prof. Cheyne by Prof. Canney ends the number. Unfortunately his wild disregard of known history must react upon any consideration of the amount of reliance to be placed upon Prof. Cheyne's affirmations.

The Theosophical Path. Jan., 1916.

This Californian journal, with which we are regularly favoured, does not usually give scope for scientific criticism. We are the more bound, therefore, to notice some of the just and forcible remarks in a paper on *The Gift of Antiquity to Art*, by Grace Knoche. "When we consider that an evening might be spent with

profit upon a single nation of antiquity, a single period in that nation, or even upon a single statue, the topic assigned . . . seems broad in scope. The best that can be done, therefore, is to take a running glance at some of the great monuments of antiquity and remind ourselves of our supreme indebtedness to it—indebtedness for form as well as contents, for technic as well as *motif*. For modern art depends upon ancient art as one link hangs down from another in a chain.

"Examine whatever special branch you will, there, behind the modern effort stands the great art of the past, 'as one in eternal waiting.' And yet, although we copy and appropriate, there is always something that eludes us, and we have not gone beyond nor even reached the limits set ages upon ages ago . . . . .

"We have never attained Egyptian understanding, nor Greek forbearance, in the juxtaposition of plain and decorated spaces. We have nothing in ornamental detail that yet can make superfluous the lotus, the acanthus, or the honeysuckle *motif*. We have never devised anything in continuous pattern that can improve upon the simple egg and dart, the simple astragal, the guilloche, the bead and fillet, the rosette and spiral patterns from the Beni-Hasan tombs." . . . .

Referring to the Persian tile-work frieze of lions: "Note the continuous pattern both above and below the lions, which we have appropriated without so much as a 'thank you,' and without improving upon it in the least. And this is but one of almost numberless examples, for, truth to tell, there is not a corner of the entire field of modern art that antiquity does not already hold in fee simple, the while we calmly appropriate and fix over for our own use—often a very commercial use—what we seldom acknowledge and frequently misunderstand. . . . . Go into any art school of standing and you will find ancient sculptures, not modern ones, set before students who are learning to model or draw. . . . . What have we added to this heritage of beautiful forms? Nothing; while in the effort to be very original—having lost the true canons of proportion and knowledge of the old life and its laws—we have generated, in addition, a bedlam of bric-a-brac that posterity will only sweep away."

These are reflections which we hardly ever find applied as a counterpoise to modern vanity. We tacitly accept this position without venturing to put it into honest expression. All honour therefore to a writer who will say so explicitly what is the barrenness of modern productions.

The Athenaeum Subject Index to Periodicals, 1915.—Theology and Philosophy. 33 pp., 4to. 1*s.* 6*d.*

This is a sample of the various classes of subject indices undertaken by the *Athenaeum*. The issue of an annual index to papers in periodicals may be useful in some kinds of works; but it raises the question how far the world has time to turn back upon old weeklies and monthlies, most of the writing of which is ephemeral in its character. To the literary man who delights in personal detail as to the history of ideas in the present time, this index will be invaluable. As a curious feature it may be noticed that the Church at Rome (here called "Catholic Church") has seven times as much space as the Church of England, and half the papers referred to about the English Church are by Roman Catholic writers. A study in tendencies seems suggested by this omission of all the Church of England weekly and monthly papers, and the elaborate cataloguing of the "Catholic Church" under thirty-five different headings.

Notice sur la vie et les travaux de M. Georges Perrot.—GASTON MASPERO. Address to the Institut de France. 41 pp. 1915.

This biography of the late perpetual secretary to the Institut is a tribute from his successor to the memory of one of the principal archaeological writers of the last century. He was born in 1832, and brought up by his widowed mother and grandmother, in the quiet of home life, nourished on the Bible and the best of French classics, and learning English from reading Scott. His grandmother must have retained some of the spirit of France of the *ancien régime*, and thus contributed to the historical sense of the future writer. This was the surrounding to produce a scholar and an antiquary. After a brilliant schooling, he ransacked France in walking trips, and began his University training at the start of the Second Empire. The Ultramontanes then in power determined to reject him as a Protestant, and it was only by a friendly intervention with Napoleon that this intolerance was stopped. At twenty-three he succeeded in gaining a place at the School of Athens, after showing his ability in handling ancient inscriptions and modern Greek. In his new field he made a careful study of the inscriptions and history of Thasos; after which he returned to the career of University work in France. Three years there were cut short by employment in the researches upon the history of Caesar for Napoleon III. In that his great work was the complete copying of the testament of Augustus from the monument at Ancyra, smothered in Turkish houses. He further copied or took squeezes of five hundred Greek inscriptions, and for the first time photographed the Hittite monuments, then scarcely known. When these delightful days had to give place to routine teaching in France, he gave the classics a new life to his students by his vivid knowledge of the sites; he also opened the interest of archaeology to the public by popular writing in journals. The blow of 1870 fell upon him in Paris, where he remained in his position. His spread of the interest in his work resulted in 1877 in a new professorship of Archaeology at the Sorbonne. Soon after he met an architectural enthusiast in Chipiez, and from 1878 to 1901 they collaborated in the well-known series of volumes on the archaeology of many lands. These works have no doubt done much to put material before the public, and served as text books for students. This is not the place for criticism, but we may regret that the illustrations gave so incorrect an idea of ancient art—especially in Egypt—and were mixed with so much restoration which was unfounded. Fresh work came upon him as director of the École Normale, as editor of the *Revue Archéologique*, of the *Monuments Piot*, and as a general writer on archaeology. He finally retired from his mass of professional work in 1903, to occupy the high dignity of perpetual secretary of the Académie. In 1914, at the age of eighty-two, he travelled in Italy with his grandchildren, and was looking forward to his golden wedding that summer, when mercifully a sudden death, amid his papers in his study, removed him on 30th June before the horrors of that autumn were even anticipated.

NOTES AND NEWS.

OUR English friends will be glad to hear that the American Branch has now been fully organised, under the Presidency of Prof. Breasted, who has long been recognised as the principal Egyptologist of the other hemisphere. The energetic management of Dr. Winslow has promoted the organisation, which includes seven vice-presidents, who are heads of Universities, Colleges, the Carnegie Museum, and the Archaeological Institute. In the large vitality shown lately in American research, it is well that our Research Account has thus taken a position which may lead to solid co-operation in the future.

A few months ago a paragraph appeared in the papers relating to the discovery of palaeolithic man in a cave in Egypt. Now there is nothing unlikely in such a discovery; it is a thing to hope for and to expect. Enquiries were therefore made of Dr. Ferguson, who was stated to have examined the skull. His reply is that the skull was found in one of the large quarry caverns in the Mokattam hill; and Dr. Ferguson found in the same place part of another skull with a small fragment of iron or steel bedded in it. The position in an artificial quarry, fixes the date to be after the IInd dynasty, when quarrying first began. Probably both skulls are of Roman age, or later.

In the paper in the last number on "The End of the Hittites," a slip has been kindly pointed out by Mr. Hugh Seebohm. In the discourse of Odysseus to Alkinous, he was recounting his previous tale to Achilles, concerning Neoptolemos the son of Achilles. It was therefore the son of Telephos, the king of Mysia, who had the Ketean companions, which is likely enough on the borders of Hittite power. The previous wounding of Telephos by Achilles was what gave point to the tale about Neoptolemos son of Achilles slaying Eurypylos the son of Telephos.

The safe return of Dr. Derry to England for a short time, from his Mediterranean hospital work, has much gratified his numerous friends.

Lieut. Engelbach, R.E., who left Suvla Bay on the evacuation, has been for some weeks in Egypt; he has since come to England, and after some needful rest is now stationed at Newhaven.

Second Lieut. Thompson, of the North Staffordshire, is now in Cairo, at the School of Instruction, Zeytun.

Second Lieut. North is also in Cairo.

Second Lieut. Lawrence is on the Intelligence Staff, Cairo.

Mr. J. E. Quibell, Curator of the Cairo Museum, a former student of the Research Account, is in the local defence corps in Egypt.

Mrs. Quibell—known in the Research volumes as Miss Pirie—is active in the Cairo canteen work.

Mr. Eric Peet is in service at Salonika, near Prof. Ernest Gardner.

THE PORTRAITS.

THANKS to Dr. Mercer, we have some illustrations from the Gorringe Collection, and perhaps the most interesting of these is the bronze portrait statuette of a Ptolemaic king on page 51. That it is a king is evident from the elephant's skin headdress of royal form, which was represented upon some of the Ptolemaic coins. That it is of the late Greek period is clear from the work. As such a figure is a new example of portraiture, Dr. Mercer kindly had a profile view of it taken, which is here given as one of our portraits.

Which Ptolemy this represents is not easy to settle. The earlier kings of that dynasty are fairly pourtrayed and recognised, but about the later ones there is a maze of uncertain suppositions, in which no two authorities find enough ground to agree. Most of the later coins only repeat the head of the founder, Soter, and portraits are rarely given.

The age of this king is a main guide: the sinking round the cheek-bone, the drawn lines of the face, the flabbiness round the eye, the pinched chin and nose, all show an elderly man, certainly over fifty, probably about sixty. The history is somewhat difficult to unravel, but from direct and indirect detail, it seems to have been thus:—

	BORN. B.C.	REIGNED. B.C.	DIED. B.C.	AGE. B.C.	
I. Soter	367	325	283	84	
II. Philadelphos	308	285	246	62	
III. Euergetes I	284	246	221	63	
IV. Philopator	243	221	204	39	
V. Epiphanes	209	204	181	28	
VI. Eupator I	190?	182	181	9?	
VII. Philometor	188	181	146	42	
VIII. Eupator II	162	146	145	17	
IX. Euergetes II	171	146	116	55	Physkon.
X. Soter II	142	116	81	61	Lathyros.
XI. Alexander I	130?	106	88	42?	
XII. Alexander II	110?	81	81	29?	
XIII. Neos Dionysos	110?	81	51	59	Auletes.

Thus the choice of attribution is much limited by the age. As the portrait is clearly not Ptolemy I, II, III or IV, by the coin portraits, the age limits the attribution to IX, X or XIII, as all the others died a good deal younger. Of these three the IXth, Physkon, was—as his nickname shows—marked by his gross size, and fatness as shown on the coins, whereas this king is spare and strong. The conditions of the Xth, Lathyros, agree much more with the type we see here. Exiled to Cyprus by a usurper, after ten years of reign, he kept up his energy, and eighteen years later, at the age of fifty-four, he forced his way back to the throne of Egypt, and reigned there seven years till his death. He has the character for patience and amenity along with good fighting capacity; and that would agree

well to the type we see here. The age of XIII, Auletes, would place him in the running; but a man whose luxury and voluptuous life gave him the nickname of "flute-player," and the official title of Neos Dionysos, would scarcely frame to the spare, firm, determined old man we see here. Not much doubt then rests on attributing this bronze statuette to Ptolemy X Lathyros.

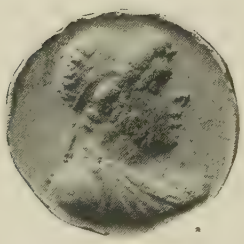
Mr. Hill has kindly allowed casts from the British Museum to supply here the best portraits of Ptolemy I Soter, and Ptolemy IV. The Soter head is the youngest type, and is given to compare with a head on onyx in University College, which has a bust of a Graeco-Egyptian king, which might be intended for Soter. From the Greek work, but purely Egyptian headdress, it is most likely to be of his time. The head of Philopator is given for comparison with a finger-ring of gilt bronze, in University College, which is certainly of the same king.

GOLD COIN.

ONYX.

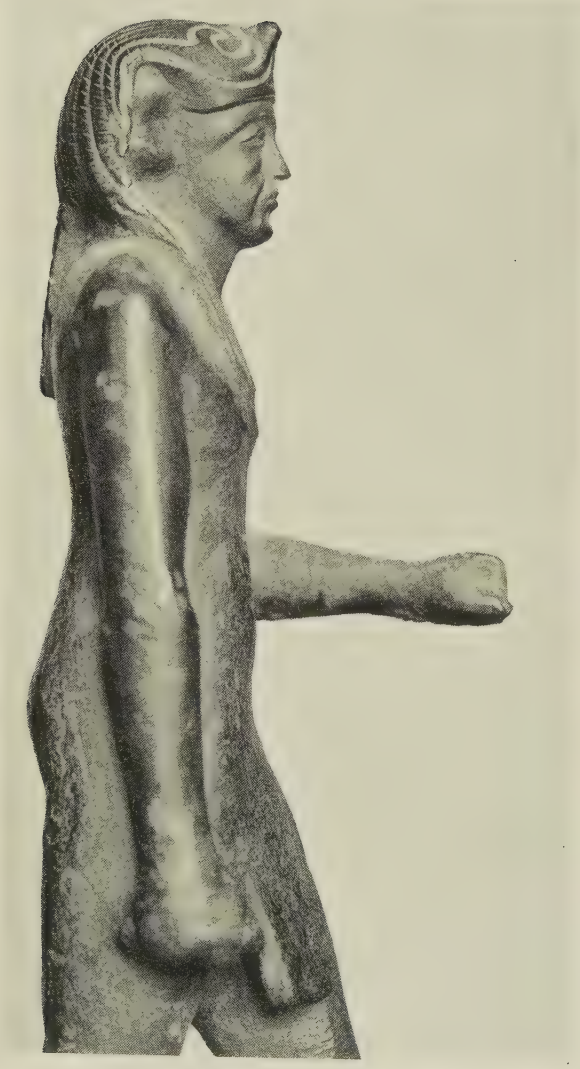
PTOLEMY I., SOTER.

GOLD COIN.



BRONZE RING.

PTOLEMY IV., PHILOPATOR.



PTOLEMY X., LATHYROS.

BRONZE FIGURE. GORRINGE COLLECTION.

ANCIENT EGYPT.

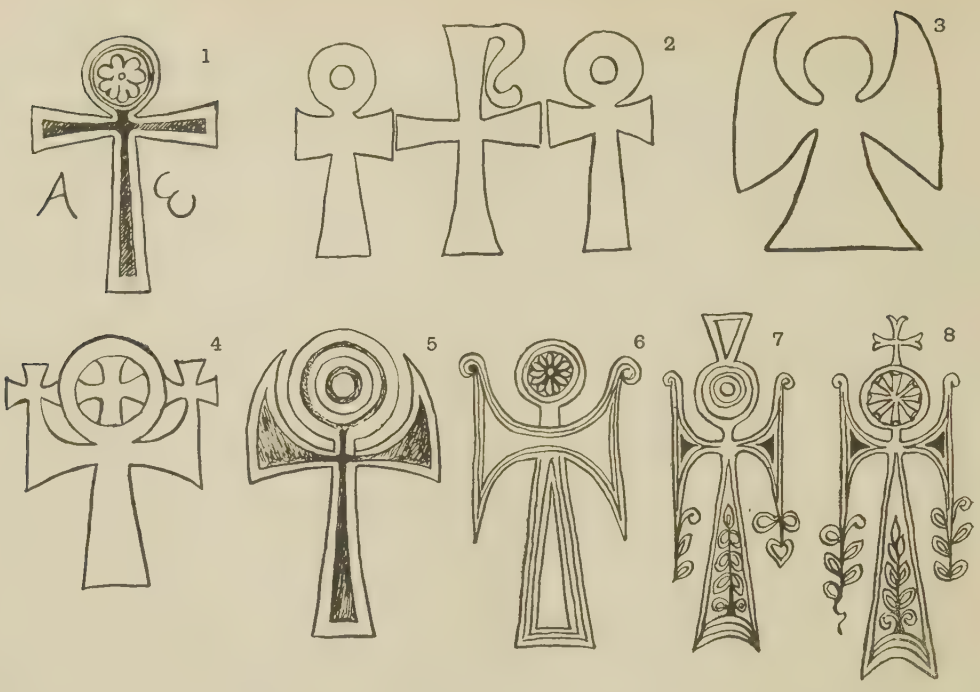
EARLY FORMS OF THE CROSS FROM EGYPTIAN TOMBS.

IT is generally agreed that the use of a cross by Christians as a symbol of Christ the Redeemer did not come into general use until the time of Constantine. It seems to have been early in use by the Egyptians, who adopted a form of the *ankh*, the Egyptian hieroglyphic sign which is sometimes called "the key of life," or "the life of the world to come," as a link between the old faith and the new.

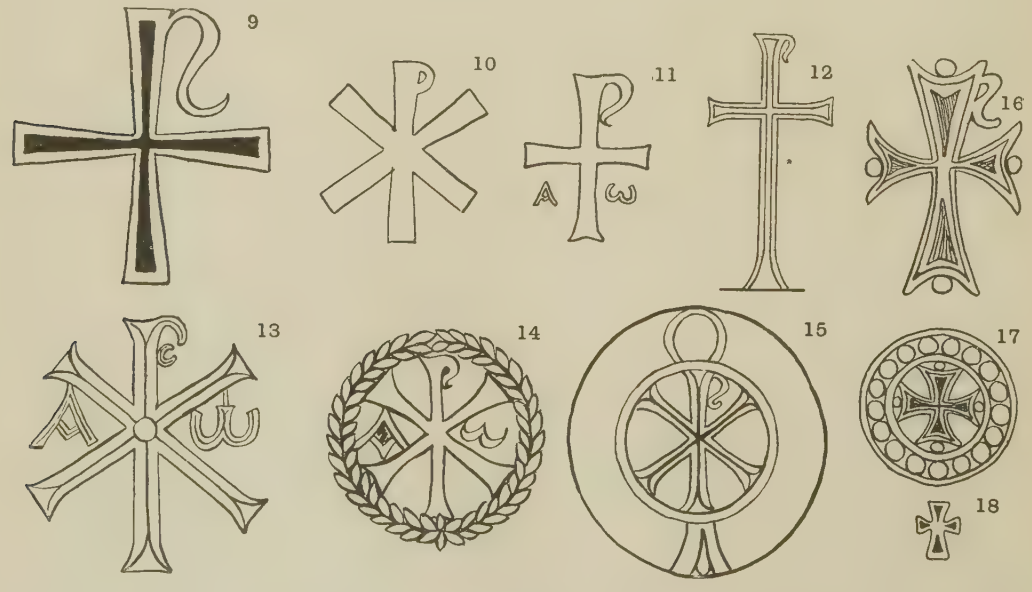
When the great temple of Serapis was solemnly destroyed by order of the Emperor Theodosius, there were laid bare "certain characters which they called hieroglyphics, having the form of crosses." The Christians claimed these as evidence that the great building had once belonged to their faith. But some of the heathen converts to Christianity who could read the ancient writing, interpreted the inscription. They said that the character resembling the Cross signified in ancient days "the life to come." They further declared that the writing was a prophecy, which, being interpreted, meant: "When the (character in the form of a cross representing) Life to come should appear, the temple of Serapis would be destroyed"; on hearing this, a great number of the pagans embraced Christianity and were baptized.

The crosses which follow are taken from early tombstones: some are from churches of the fourth and fifth centuries, and some are probably later; for as persecution waxed fierce in Egypt there came a tendency so to disguise the form of the cross that it should only be recognizable by the initiated. The curious observer may often detect these later concealed crosses in the ornament of mosques, showing that the architect who designed them was a Christian.

It will be seen that I have made no mention of what is called the Tau Cross, represented in most of the modern dictionaries as coming from Egypt. But this is because I have never seen it represented or described in Egypt, and do not know why it is represented as coming from thence. On the other hand I have no doubt in my own mind of the Egyptian origin, in design, of the early crosses found in Great Britain and Ireland, though most of these have the long shape which was (I think for reasons of disguise) early abandoned in Egypt for the square shape. In the sacred books of the Egyptian Church the cross generally has the long shape; it is on tombstones and mural decorations—in public places—that it becomes square.



No. 1. The *ankh*, with an ornament in the circle, and Alpha and Omega on each side. This form is, I think, peculiar to Egypt. I have met with the Horus cross in Greece and Italy, but not with the *ankh*, or, as some call it, the "key of life." Later on, the arms were elongated, as in No. 3, and this was said to indicate wings. In No. 2 the *ankh* is shown on either side of the cross with the lock of Horus; while No. 4 shows the *ankh* supporting three crosses. Nos. 5, 6, 7, and 8, are all, I think, later forms of the winged *ankh*.

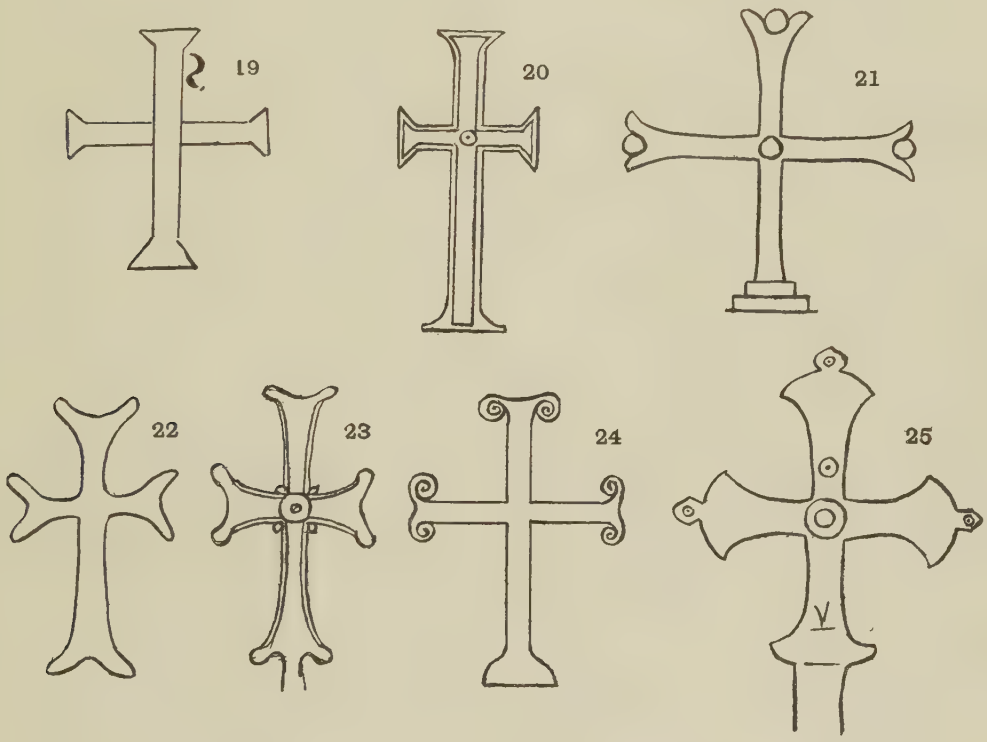


The sources of these are as follow:—No. 2, Cairo, 8551. No. 3, Cairo, 8561. Nos. 7 and 8 Cairo, 8567. No. 10, Cairo, 8412. No. 11, silver dish from Luqsor, Cairo, 7204. Nos. 12 and 13, on sarcophagi at S. Apollinare in Classe, Ravenna.

No. 9. Cross with the lock of Horus, denoting the Divine Son who overcomes the power of evil. The side lock was in ancient Egypt a sign of youth, and afterwards it became specially the mark of Horus, and hence of noble birth.

This is a very early form. When the labarum was adopted by Constantine I, it seemed to have been modified in Egypt, probably at a later date. No. 10 shows the standard of Constantine (see No. 47 in Prof. Petrie's Italian Crosses), No. 11, the cross with the lock of Horus, and No. 13, the standard with the loop turned into the lock of Horus. A reference to the Italian crosses will show the identical design at Ravenna, No. 55, and the cross with the lock of Horus, Nos. 62 and 63, while No. 64 shows the upright cross of the labarum proper. No. 12 is the Italian form.

No. 14. A form of the labarum (note the lock of Horus) encircled with a bay wreath.



No. 15 is the late Italian form on the foundation stone of St. Mark's at Venice.

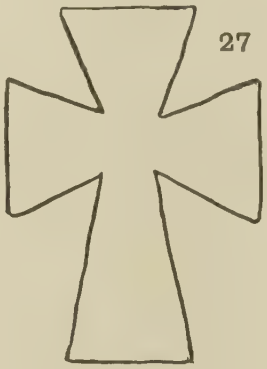
Nos. 16, 17, 18 are a group of various forms of the cross which occur together on a single Coptic tombstone in the British Museum, stated to be of the seventh or eighth century.

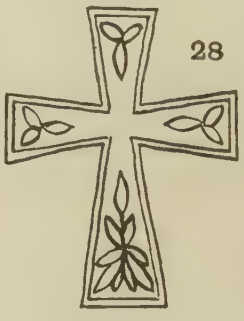
Nos. 19, 21, 22, 23, and 25 show a different and more elongated form, with spreading ends. These, I think, are not earlier than the sixth and succeeding centuries. Compare with Nos. 20 and 24, which are Italian crosses. No. 19 is at Cairo, 8520. No. 20 is the cross held by Archbishop Maximian in the mosaic at Ravenna, A.D. 550. No. 22 is at Cairo, 8410. No. 23 is a bronze cross at Cairo, 9126. No. 24 is on the sarcophagus at Ravenna of Archbishop Johannes, A.D. 742, also on that of Archbishop Gratiosus, 788 (repeated, figure 132). No. 25 is a bronze cross from Abu Rowash, Cairo, 9176.

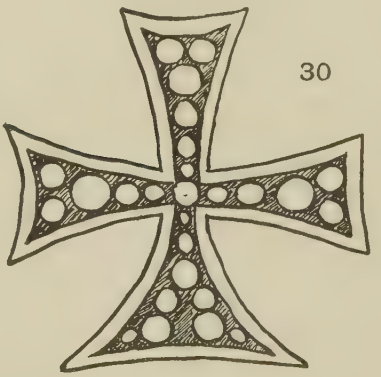
Nos. 26, 28, 29, and 30, show a slightly different form of cross, which is found everywhere after the fifth or sixth century. The ornamentation is inside the cross, sometimes engraved, sometimes jewelled. Compare with Nos. 27, 85, 98, and 99, among the Italian crosses. No. 26 is from the baptistery at Ravenna, A.D. 450. No. 27 at Cairo, 8411. No. 29 at Cairo, 8423. No. 30 at Cairo, 7329.

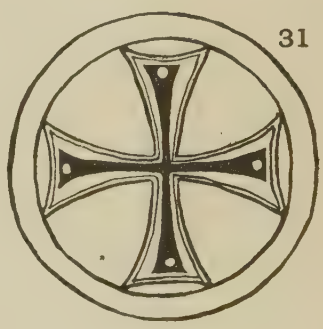
Nos. 31, 33, 34, 35, and 36 are all square crosses set in circles. The first two, in my opinion, are earlier than the others, and may be compared with Nos. 32, 69, and 76 in the Italian crosses. Nos. 34, 35, and 36, show the tendency to disguise the symbol of the Cross which is apparent in Egypt after the Mohammedan Conquest. No. 32 is from a sarcophagus at Ravenna. No. 33 from Ahnas, Cairo, 7350.

No. 34. Square cross with four double circles encircled with bay wreath.









No. 35. Square jewelled cross on stand, St. Andrew's cross behind, and wreath of bays.

No. 36. Square jewelled cross set in jewelled circle and surrounded by wreath of bays.

No. 37. Square cross with other Christian symbols. This is one of the most interesting of the crosses. It was found incised upon a pavement slab in a ruined church ; and an inscription on the slab appears to say that it marked the place of the Holy Jeremiah, in the great church whose ruins Mr. Quibell excavated in the desert near Sakkarah, and where among other things he found this cross, which is now in the Cairo Museum. This is probably the Jeremiah for whom the Emperor Anastasius built a huge church in Egypt early in the sixth century, on the site of a small one which had been dedicated to St. Irai (Iras).

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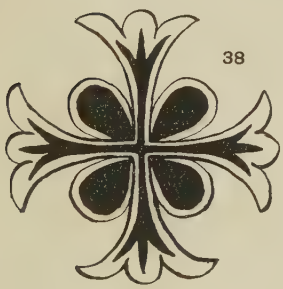
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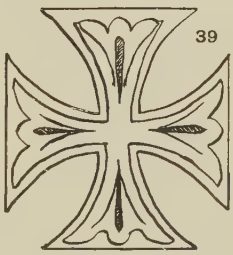
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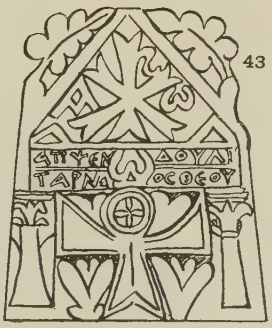
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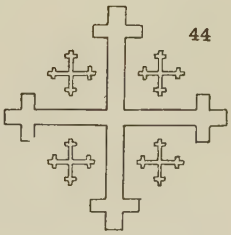
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No. 38. Square cross with four petals breaking from the centre.

No. 39. Square cross with leafage ends; of the eighth or ninth century. (Cairo, 7299.)

No. 40. Square cross, with three pointed leaves breaking from the centre between the arms, and surrounded by coil of three-fold cord.

No. 41. Cross surmounted by lotus flower; three-pointed leaves breaking from the centre. Cairo, 8589.

No. 42. Concealed cross, set with the *uzait*, or mystic eye of ancient Egypt.

No. 43. Tombstone containing three different crosses, one with the lock of Horus, and one in the *ankh* cross. Cairo, 8602.

No. 44. The cross which is most commonly found on those restored Egyptian churches which are still standing, is really a group of five square crosses, like the one now called the Jerusalem Cross.

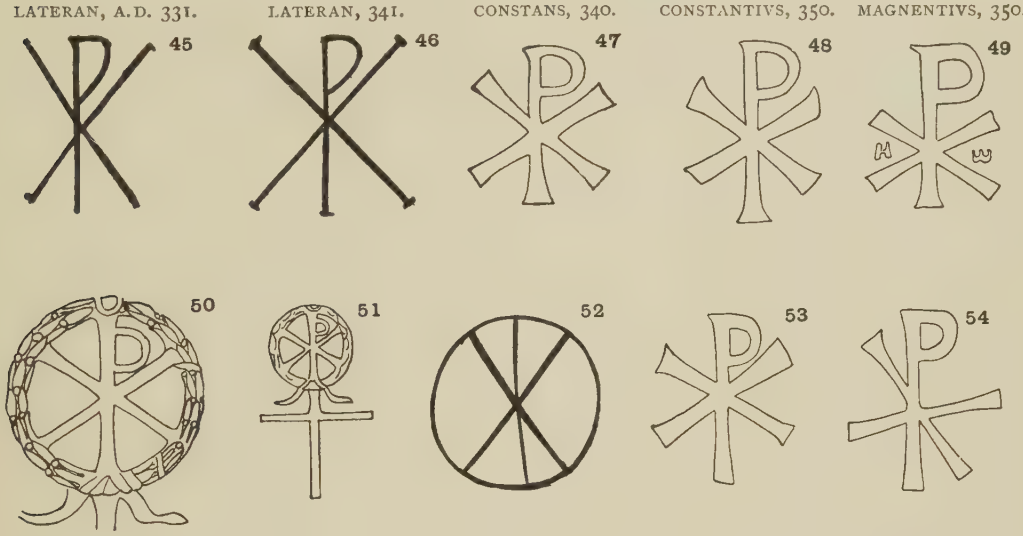
E. L. BUTCHER.

The interesting collection of forms of the Cross which Mrs. Butcher has contributed from her long acquaintance with Egypt, is an inducement to issue some material on the history of the Cross, which I had collected in Italy, about fifteen years ago. The cross form in Egypt cannot well be taken apart from the history of it elsewhere, for the changes were closely linked over all the Roman Empire; and as the Italian examples are better dated than those in Egypt, the order in course of time helps to show what was the course of development. Mrs. Butcher has already incorporated such of the Italian collection as seemed best to illustrate the connection with Egypt. Here, therefore, I shall trace what may be seen of the history of the changes of form, mainly on the following Italian examples, with reference also to those which have preceded this. One of the best sources of dating is the series of dated inscriptions in the Lateran Museum, many of which have a cross. It might be supposed that so obvious a subject had been exhausted already. But—to say nothing of various fanciful works—the treatise of Didron lumps all crosses before the eighth century as "of the earliest period," while spending pages upon useless quotations of poetry.

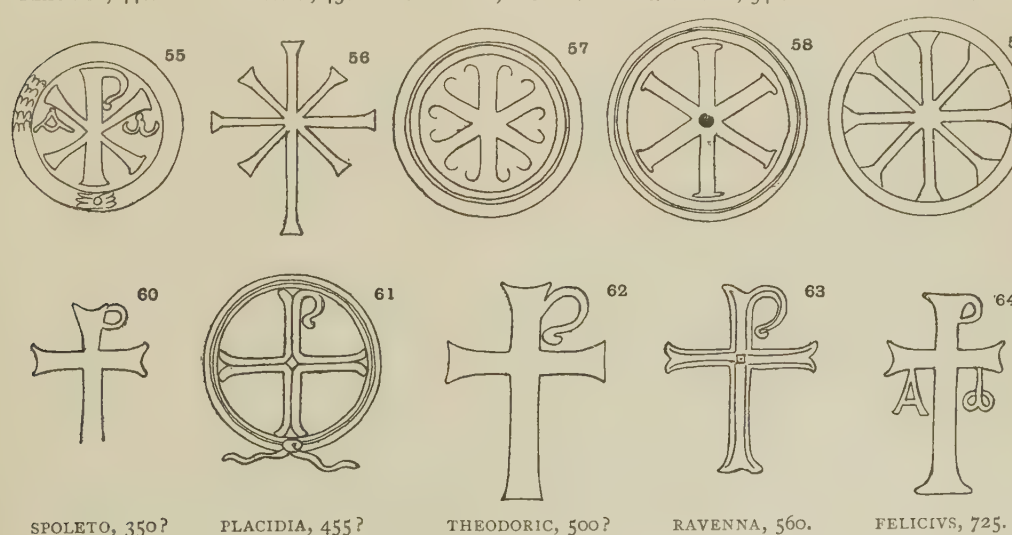
The earliest Christian symbol which can be dated is not the Cross, but the **XP** monogram (Nos. 45, 46). There is no question that this is the military labarum sign found on the Roman coinage as the standard, from Constantine onwards. This complicates the question as to the Vision of the Cross. The narrative of Constantine's vision closely agrees with the well-known parhelion, a cross of light radiating from the sun and extending to a circular halo. The vision was in the autumn, near the Alps, where frosty air would naturally supply the material of a parhelion. Another parhelion of the same kind is claimed to have been seen at Jerusalem in the next generation. I have even seen a mock sun—the most visible portion of a parhelion—in Middle Egypt. We should have expected the ensign to be a vertical cross in a circle; but this form does not appear in use until a century later (Nos. 61 and 69, A.D. 425).

The earliest form is the monogram of **XP**, and it seems as if there was some special reason for Constantine not adopting the cross, but taking instead the two leading letters of **XPΙΣΤΟΣ**, perhaps with some secondary meaning. Earlier occurrences of this monogram have been noted on coins of Tarentum and Bactria; but it is so likely a monogram to occur for many words and names formed from χρυσὸς, that there is no need to suppose that it has a religious meaning before Constantine. The earliest example as a Christian symbol is said to be of A.D. 323. Here, in No. 45, is one dated to A.D. 331, in No. 46 one of A.D. 341, and there are other instances in the Lateran of A.D. 353, 358 (two), 362, and 382. (On the labarum, see Gibbon, ed. Bury, II, p. 567.)

The monogram on coins of Constans (about A.D. 340) is No. 47. The same is on coins of Nepotianus, A.D. 350. No. 48 is from coins of Constantius II, A.D. 350, and Jovianus A.D. 363; and with **A**, **ω**, used by Magnentius A.D. 350. At about the same date it is found placed in a wreath on sarcophagi in the Lateran (Nos. 50, 51). A degraded form, No. 52, also occurs. The type continues with the next century,

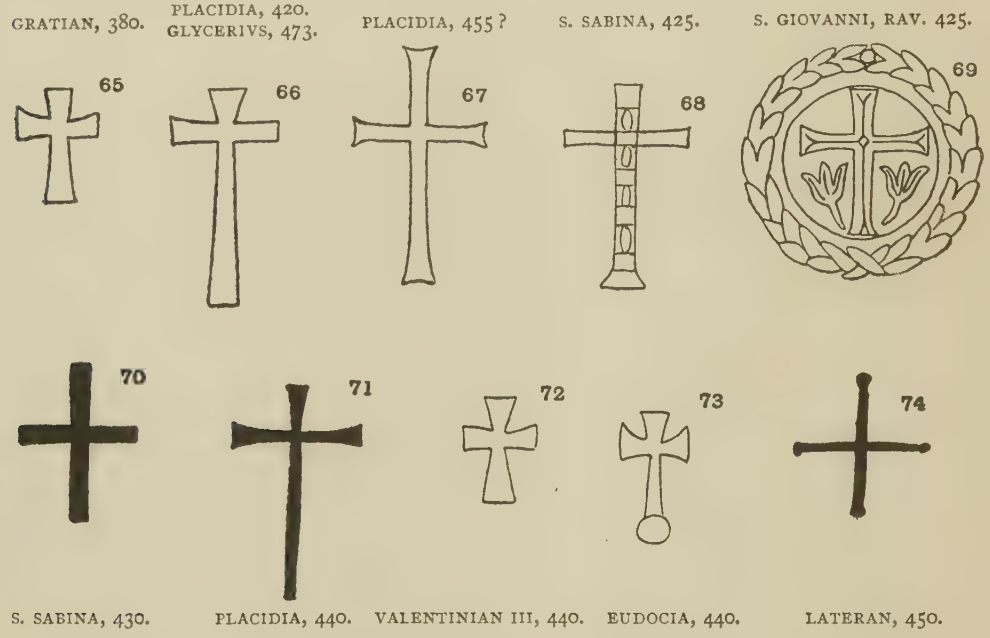


under Galla Placidia, A.D. 420 (No. 53), and Anthemius, A.D. 470 (No. 54). Placed in a wreath (No. 55) it also occurs in the tomb of Galla Placidia. Curious variations of monogram with a cross (No. 56) begin at S. Agata, Ravenna, in A.D. 430; these are found at Salonika (No. 57); S. Vitale, Ravenna (No. 58), in A.D. 546, and, perhaps, a century or two later at S. Apollinare in Classe (No. 59).



The second form to appear was the Cross with a loop at the top, generally considered to be the **P** of **ΧΡΙΣΤΟΣ**, the **X** being identified with the Cross; No. 60 is of about A.D. 350, from S. Agostino at Spoleto. Soon after, this form

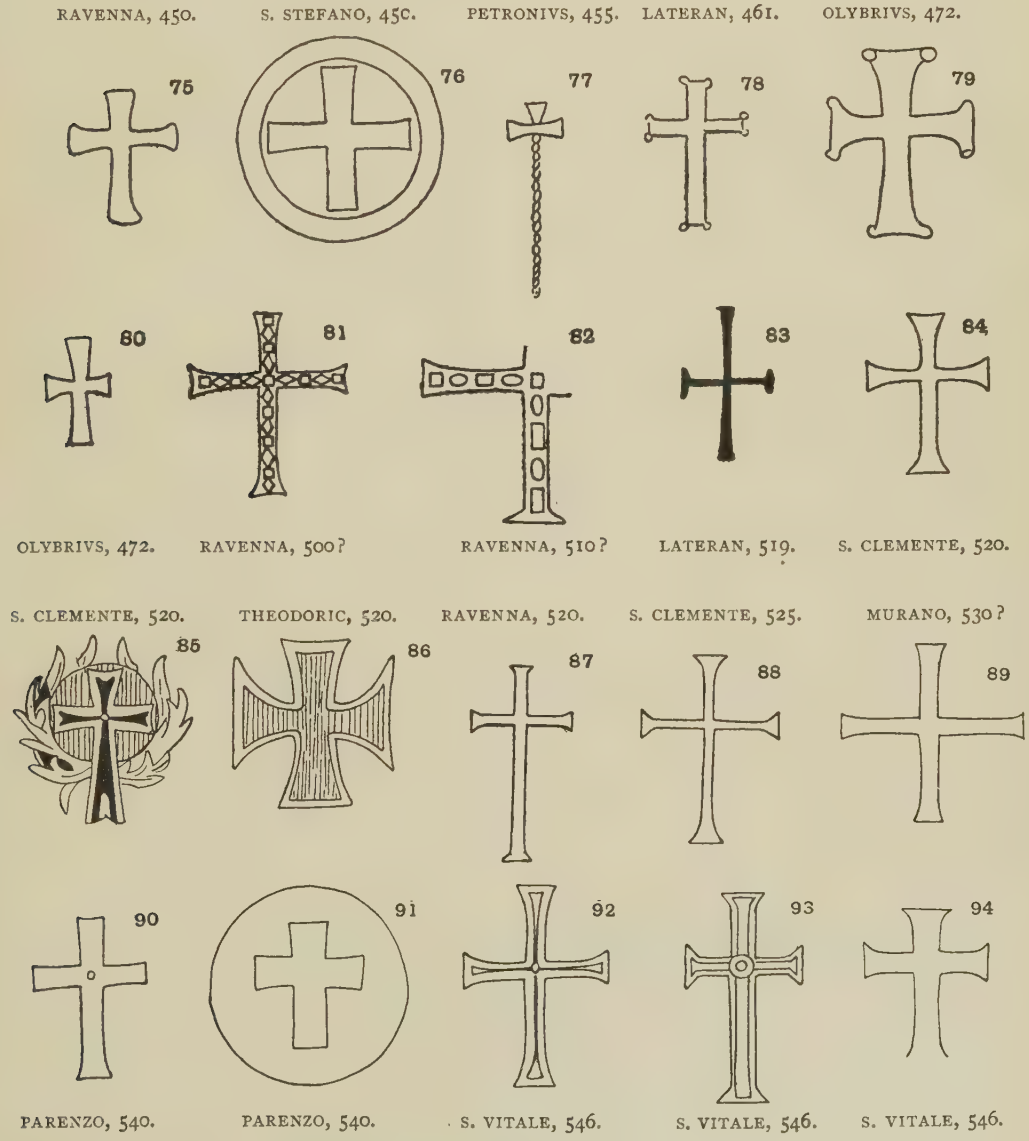
appears as a recurved hook, No. 61, on the sarcophagus of Honorius, A.D. 425, or, more probably, of Valentinian III, A.D. 455; No. 62, of Theodoric, about A.D. 500; No. 63, from S. Apollinare Nuovo, at Ravenna, A.D. 560; No. 12, of about the same age, on a sarcophagus at S. Apollinare in Classe. Now this was a staple form in Egypt, and it has been, with good reason, regarded as the lock of Horus attached to the Cross, an emblem of the Divine Son. No Egyptian examples can be dated as early as the fourth century, hence the form No. 60 seems to be the earlier. The Egyptian type is probably, therefore, an adaptation, but one which was spread largely in Italy, along with much else of Egyptian Christianity. This modification was also applied to the ☧ monogram, as in No. 55, from the tomb of Galla Placidia, A.D. 440.



We now reach the appearance of the plain cross. So far, a monogram of some kind had been the public emblem, and it is not till A.D. 380 that the Cross appears on the coinage, as No. 65, of Gratian. We do not know what the form was of the cross which is said to have been held by the statue of Constantine, or of that which he set up at Constantinople, or of the gold cross which he laid on the sarcophagus of St. Peter (last seen when laying the foundations of the present basilica)—all these are unknown. But, so far as the coinage and the labarum on the coins show, the plain cross appears in A.D. 380; it is next found in A.D. 420 on the tomb of Galla Placidia (No. 66); then (elongated above) on the sarcophagus of Valentinian III (No. 67). After that it is found jewelled for the first time in A.D. 425 at Sta. Sabina (No. 68), and, at the same time, placed in a wreath (No. 69) at S. Giovanni, Ravenna. The ☧ monogram in a wreath occurs rather later (No. 32) on a sarcophagus at Ravenna.

Another modification seen on coinage is placing a cross on a globe. This first appears under Valentinian III at about A.D. 440; and an example borrowed from the same design is No. 73 of Licinia Eudocia, about A.D. 450. Other examples of the simple cross are, No. 70 from Sta. Sabina in A.D. 430, No. 71 from the tomb of Galla Placidia in A.D. 440, No. 72 from a coin of Valentinian III, about A.D. 440; and No. 74 from the Lateran, about A.D. 450.

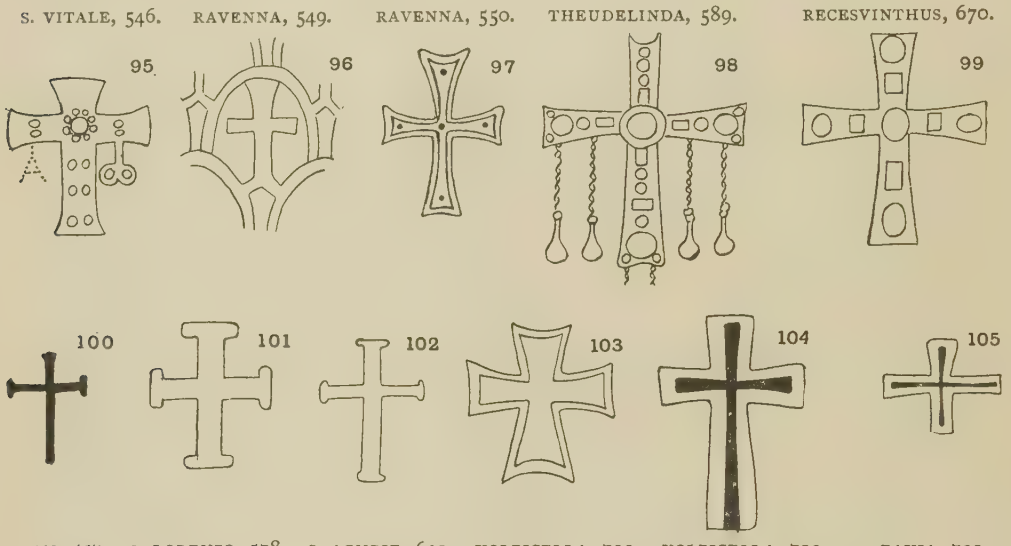
The simple cross was continued in the baptistery of Ravenna, A.D. 450 (No. 75). The equilateral cross, or Greek cross, an old Mykenaean emblem, was accepted (No. 76) at S. Stefano, Rome, between A.D. 440 and 461. A cross with a long twisted stem (No. 77) appears on the coins of Petronius Maximus (A.D. 455), and of Anthemius (A.D. 467). The beginning of ornamenting the angles is seen at the Lateran (No. 78) dated to A.D. 461, and on the coins of Olybrius (No. 79) of A.D. 472. It is notable that all of these crosses on coins belong to the Italian Emperor and not to Constantinople. The jewelled cross, which was started at A.D. 425, appears again about A.D. 500 in S. Apollinare Nuovo, at Ravenna (No. 81), and the Arian Baptistery about A.D. 510 (No. 82).



A tendency to widen the stem and arms to the end, came in at A.D. 520 at S. Clemente, Rome (No. 85) and the tomb of Theodoric at Ravenna (No. 86). Otherwise the fashion led to long thin parallel limbs with a sudden widening at the ends, as at the Arian Baptistery, Ravenna (No. 87), S. Clemente, Rome, A.D. 525

(No. 88), S. Donato at Murano, A.D. 530? (No. 89), and S. Vitale, Ravenna, A.D. 546, (Nos. 92, 93, 94). The plain-limbed cross appears—perhaps under Greek influence—at Parenzo in A.D. 540 (Nos. 90, 91).

At this point begins the decoration of the cross with various jewel patterns. The earlier jewelling was in restrained regularity, in accord with Latin feeling; the later jewelling is more of Oriental character, spotty and irregular, as No. 95 of S. Vitale, A.D. 546; the cross of Theudelinda A.D. 589 (No. 98), and the similar cross of Receswinth in A.D. 670 (No. 99). A curious instance of the cross is in the pattern of the bronze grating of the crypt of S. Apollinare in Classe, of A.D. 549 (No. 96). The widening of the top is like the contemporary cross on the ivory throne of Maximian in S. Vitale (No. 97).

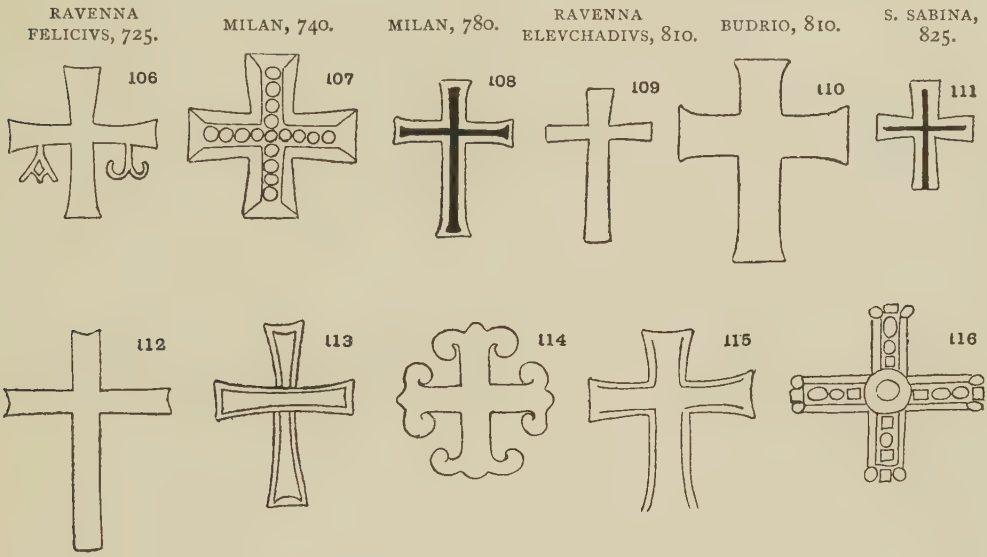


The addition of cross bars at the end of the limbs of the cross first appears in A.D. 557 at the Lateran (No. 100); rather later, at S. Lorenzo, Rome, A.D. 578 (No. 101), and Sta. Agnese, Rome, in A.D. 630 (No. 102). This grew into almost a square enclosure around the cross, and was usual on the Byzantine coinage in the seventh, eighth, and ninth centuries. The splayed cross (No. 103) at S. Giorgio, Volpicella, of A.D. 712, is a clumsier form of that of Maximian (No. 97). The two incised crosses of A.D. 712, Volpicella (No. 104), and A.D. 720, Pavia (No. 105), are of similar style.

The same style recurs again in A.D. 780 at S. Vincenzo, Milan (No. 108), and in A.D. 825 at Sta. Sabina, Rome (No. 111). The thick-limbed cross was generally in favour in the later eighth century and the ninth. The jewelling is much coarser than before, as on the fragments of Sta. Maria d'Aurona at Milan of A.D. 740 (No. 107), and the cross of Berengarius at Monza, about A.D. 915 (No. 116). The fleur-de-lis terminals of the cross of S. Satiro at Milan (No. 114) are surprising for the date of A.D. 879.

Here we may pause, at a break in the regular development, to note a remarkable type which was peculiar to Egypt, having a disc at the top of the cross arms. Mrs. Butcher has brought together a series of strange forms, Nos. 3 to 8. No. 1 may well have been a modified *onkh* sign, with its round head. In No. 2 there is the *onkh* quite distinct from the cross. But in Nos. 3 to 8 we have a type which cannot have come altogether from the *onkh* and cross, as the growth of the sides is

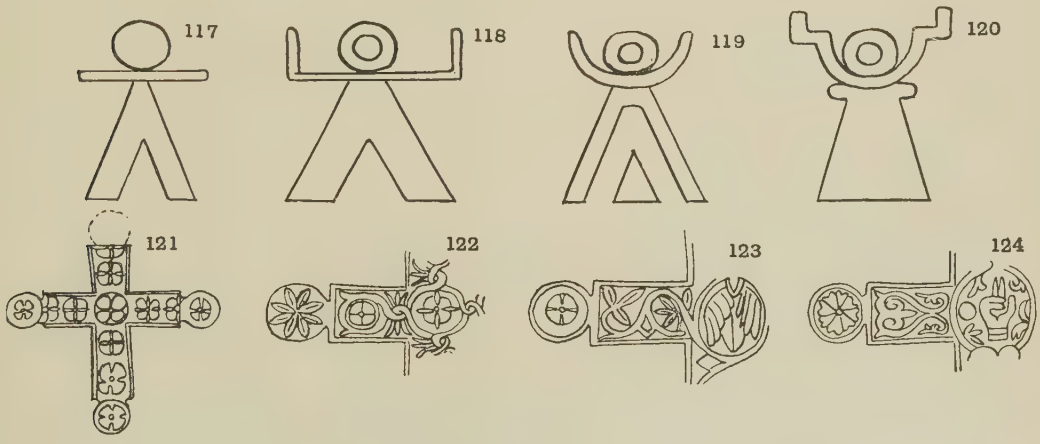
so marked. There was, however, in North Africa a most sacred emblem, that of the Punic supreme goddess, Tanith, shown here in Nos. 117 to 120. In this we see



BOLOGNA, 840. S. VITALE, BOLOGNA, 850. MILAN, 879. S. DONATO, MURANO, 880. MONZA, 915?

the wide arms turning upward, as in Nos. 4 and 5, and the splaying bases, as in Nos. 3 and 6 especially. It seems that these crosses—for they are undoubtedly Christian—have conformed as much to the claims of Tanith as to the *onkh*. How far the emblem of Tanith may have been derived from the *onkh* originally we need not here enquire. Sufficient is it that the two were quite independent when the Cross appeared, and that both influences modified the development of the Cross in Egypt.

EMBLEMS OF TANITH, CARTHAGINIAN.

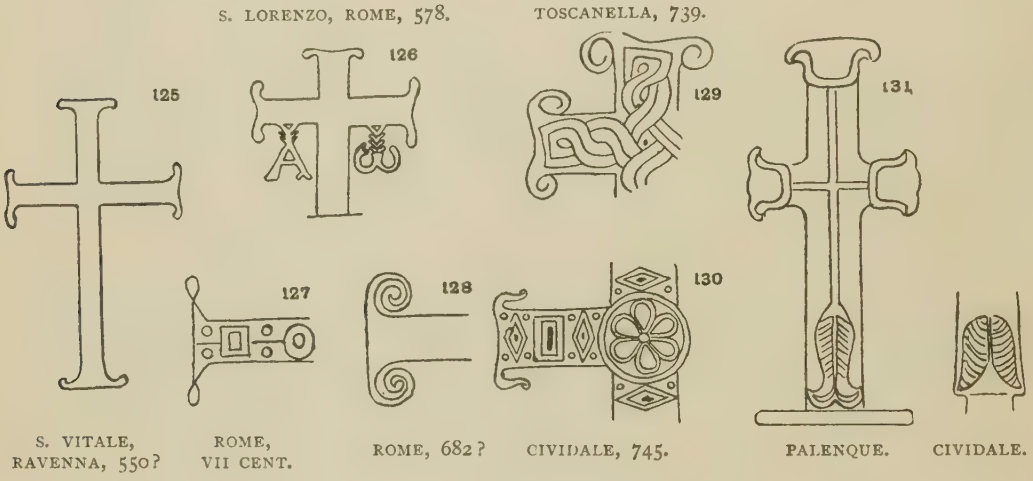


ARIAN CROSSES AT RAVENNA, 510; AND ALSO TORCELLO, 520.

The ornate type has been passed over in our historical series, as being a group by itself which we can best regard as a whole. The beginning of the elaborate ornament is in the Arian crosses at Ravenna of A.D. 510, Nos. 121 to 124. The symbolism of the hand in the centre, in the last one, is a recognized symbol of God the Father. These crosses all end in discs at each extremity, a feature quite

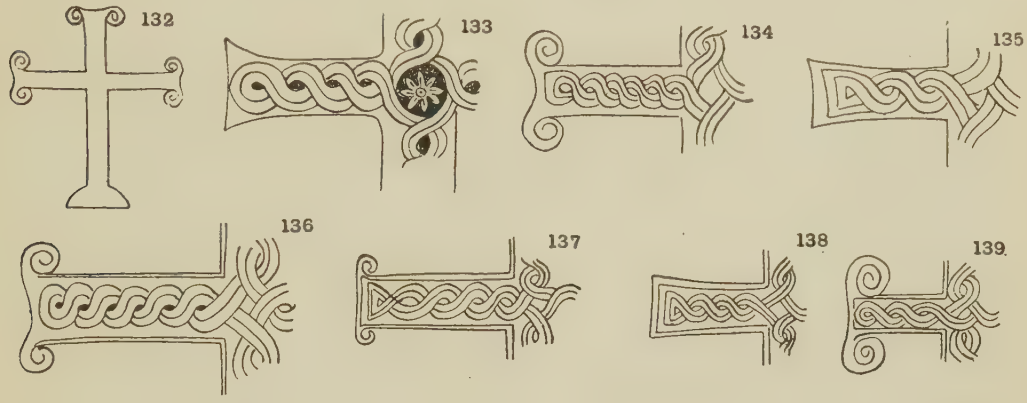
unknown before in the Italian cross. It seems as if it were influenced by the *onkh* and Tanith symbols, Nos. 1 to 8.

The crosses with decorated terminations begin at about A.D. 550 (No. 125) as on an altar at S. Vitale, and at S. Lorenzo at Rome about A.D. 578. At the same place and date such a cross has the A and ω hanging from the arms (No. 126). In the next century this termination affects a jewelled cross, in the mosaic of Primus Felicianus, at S. Stefano Rotondo, Rome (No. 127), or forms close spirals at the ends as at S. Georgio in Velabro, Rome, of A.D. 682 (No. 128). This was continued into the age of the twisted patterns, as No. 129 at S. Pietro, Toscanella, of A.D. 739. Recurved hook ends appear on the latest of the jewelled crosses (No. 130) on the altar of Ratchis at Cividale in A.D. 745.

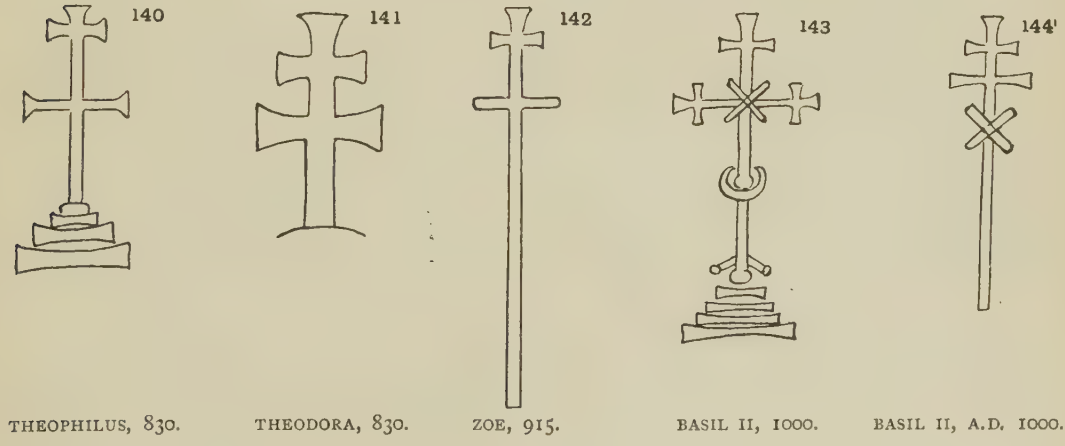


Here we may compare No. 131, which, by the form of its terminals, would naturally belong to the group of these crosses of the seventh century. The form of the foliation on the stem of the cross also belongs to about the same period, agreeing with a well-known style of about the eighth century, which may be compared in the stem pattern of the cross of Peltrudis at Cividale, placed at the side here. No. 131 is the celebrated cross of Palenque in Central America, there placed between two worshippers who stand adoring. At first sight the distance, and difference of surroundings, would seem to make any connection impossible; yet as the resemblance is purely decorative, it belongs to the best evidences of actual copying, unlike structural and utilitarian forms which may arise out of the same conditions and necessities. The purely artistic forms are always the best evidence of real connection. As this belongs to the type of cross in fashion in the seventh and eighth centuries, it would readily be the form carried by the Syrian mission to China, which began in A.D. 638, and was commemorated in the Si-ngan-fu inscription of A.D. 781. It is not impossible to suppose that a mission which had penetrated across the continent of Asia, from Syria to China, should have grasped at any hint of lands known beyond, and have penetrated by some means across to America. As the best opinion on Palenque is that it belongs to the twelfth century A.D., there is no difficulty in the transmission from China to America within the compass of three centuries. Certainly, future discussions of the source of the Palenque cross must take into account the connections of its ornament with that of the eighth century.

The twisted pattern—of northern origin—continued to be the usual decoration of crosses in the eighth and ninth centuries, as Nos. 133 to 139, generally with spiral ornament of the terminals.



In A.D. 830 a new development appeared in an upper cross arm, probably derived from the idea of the tablet of Pilate attached to the head of the Cross. The coins of Theophilus first show this (No. 140). It was modified as a double cross (No. 141), or with a long stem (No. 142) in 915. Next, under Basil II, A.D. 1000, a cross piece was added to each terminal, and a diagonal cross in the middle (No. 143); or the diagonal cross was added to a double cross (No. 144). Here we reach the many fancy varieties of form which blossomed in the Latin kingdoms of the East, and which by their variety and intricacy of ornament cease to have clear lines of descent.



Much more research is needed to follow each of the changes back to its real source; but this outline of dated examples will serve to show how various types were connected, and help toward dating monuments which bear figures of the Cross.

W. M. FLINDERS PETRIE.

[This article may be obtained in separate form, price 1*s.* 6*d.*]

CUTTING GRANITE.

THE apparent ease with which the ancients not only handled but cut so stubborn a material as granite, whether the pieces were large or small, can never fail to excite interest in those who have either visited the quarries at Aswân or examined the objects, large or small, which are still so common in Egypt or in museums.

It is not proposed in this short paper to show "how it was done" by the ancients, but merely to offer a few suggestions, and, by describing how the cutting has recently been accomplished, to demonstrate that the mysterious powers with which certain archaeologists have been pleased to clothe the ancient craftsmen may be after all quite imaginary.

Aswân granite is not very particularly hard as amongst granites. It presents the same conditions to the craftsman that are found in dealing with granites from most other localities. We can see for ourselves that the ancients divided the stone by means of wedges. What was the nature of the wedges employed is not so clear, nor the way in which they were made to fulfil their office. Some would have it that wooden wedges swelled by moisture were used; others that metal was the material made use of, and then the question follows: "What metal?" Others again suggest that fire was the agent and not wedges. It is to be regretted that the archaeologist, both of older date and of the present time, is often given to speculate on technical subjects, and even to lay down the law on matters of which he has not the least practical knowledge; hence follow remarkable results more amusing than edifying. May I myself be saved from falling into such a snare!

The object I have in view is to show how easy it was to cut large blocks of granite, and to prepare them for building operations in connection with the Great Dam at Aswân. Here was the same granite as was made use of by the ancients: here were large masses of the material under the same conditions as the masons had to deal with 5000 years ago, and the same lack of what we now call "tackle" to assist the masons in moving the blocks.

The work about to be described was, as far as work on granite in Egypt was concerned, somewhat experimental, and taken in hand so as to test the facility of "getting," and the cost of cutting the material: things most important to be known in calculating the cost of the colossal work of building the Dam.

I am so fortunate as to have at hand a full account of the proceedings given me by Mr. Courtney Clifton, under whose general direction, acting on behalf of the Public Works Department, the experimental work was conducted in the year 1895.

The stonecutters for the experiment were brought direct from Baveno in N. Italy, where are very extensive granite quarries. They found the granite but very little harder than the granite they were accustomed to work. Very large boulders were selected on the island of El-Hesseh, S.E. of Philae. The blocks required were large, 10 feet long, 3 feet 4 inches wide, and 1 foot 8 inches thick, weighing four tons. Smaller blocks weighing 3 tons each were also required. To get these blocks, a great boulder was chosen. This was divided by a vertical cut

"E" "F" (see Fig. 2), some 20 feet in length, passing along the top and two sides. This, the first cut that was made, employed eighty "plugs" or small wedges, and three groups of four heavy wedges. Each "group" consisted of two pairs of wedges placed side by side. The position of these "groups" is clearly seen on the photograph, Fig. 1. The holes to receive the "plugs" were made with a form of chisel, known as a "point," with which, also, dressing of the surfaces of the stones was done; the "point" was, in fact, the only cutting tool used.

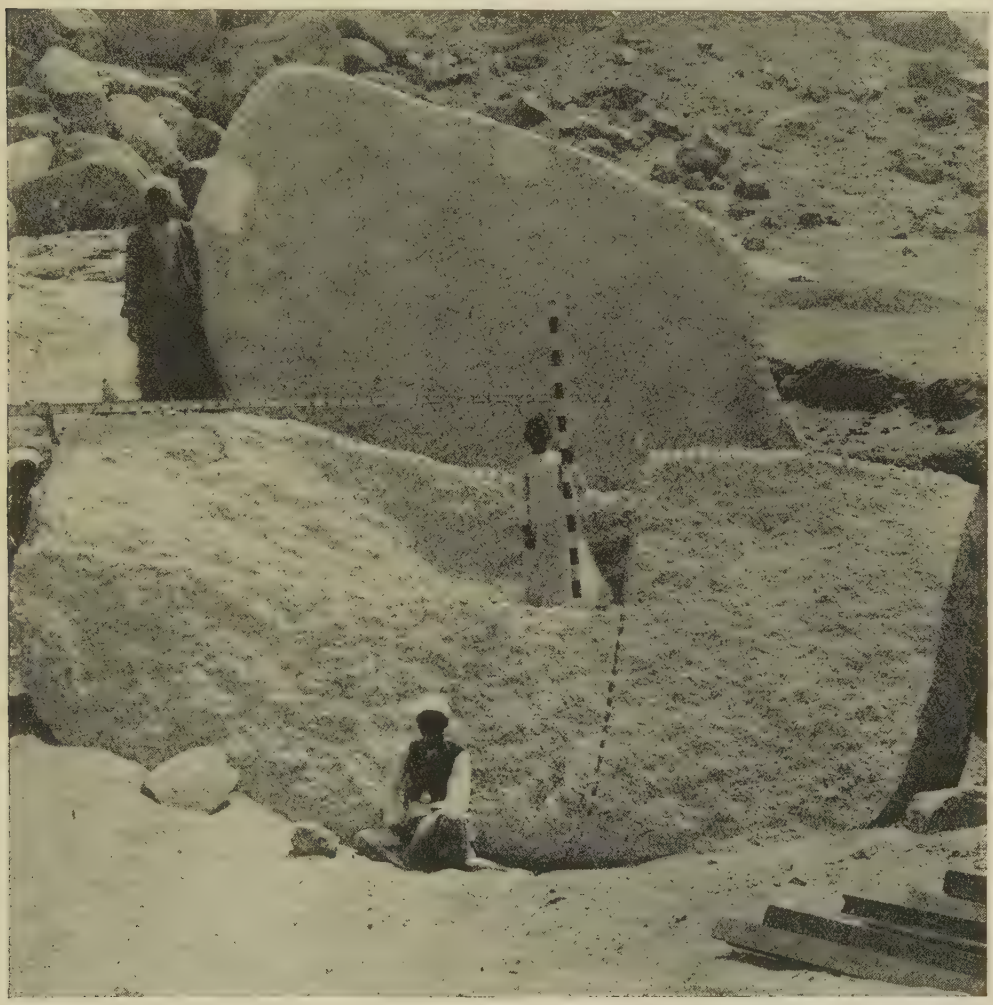


FIG. 1. GRANITE BOULDER AT ASWÂN, SPLIT BY WEDGE HOLES.

The "points" were made on the spot from an hexagonal steel bar about $\frac{5}{8}$ inch diameter; 6 inches in length of the bar were cut off and drawn out by the smith to a blunt point. When ready for use, the "points" had become about 8 inches long, and had been case-hardened or tempered, as to their tips, by being plunged when red hot in cold water. The holes to receive the "plugs" were cut with such a "point," struck by an ordinary hand hammer about 6 lbs. in weight. The holes were from 3 to 4 inches apart and 3 to 4 inches deep and $\frac{5}{8}$ inch diameter.

My friend Mr. Clifton here makes a note calling attention to the fact that the plug holes were quite unlike the holes we see in the ancient quarries which are oblong, some 5 inches long and 2 inches or more wide. The photograph, Fig. 1, shows how numerous and small the plug holes are.

A shallow groove was made, to indicate the line wherein the plug holes should be sunk. This groove was cut through the hard skin formed by the action of the weather on the outside of the boulder. The few heavy wedges, before mentioned, were made of steel. These were about 15 inches long, 2½ to 3 inches wide, and weighed some 20 lbs. The position in which they were employed is clearly seen on the photograph, Fig. 1. The large boulder was to be divided in the manner shown on the diagram, Fig. 2 ; only as much as was required to form the blocks of stone mentioned on p. 110 was to be cut off from it. The piece "G" was left standing. The lower part of the boulder was sunk to a considerable depth in the alluvium which had collected about the base. This was dug away on the side on which the masons were to work, so that, when divided, the detached part would roll over and rest in the hole there prepared. Having all things thus made ready, we now proceed to the business of cutting the boulder.

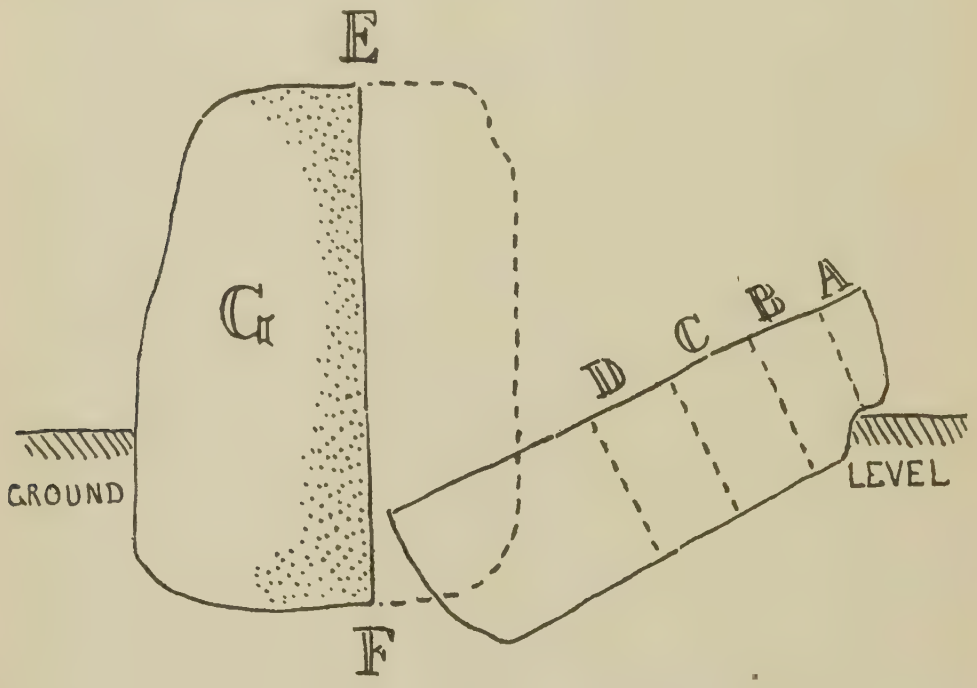


Fig. 2. Modern Mode of Splitting Granite Boulders, Aswân.

The "plugs" are placed in the holes prepared, into which they are jammed with a hand hammer. When fixed, they are struck in succession by two men swinging sledge hammers, each "plug" receiving one blow. When this succession of blows has been repeated three or four times, the fracture is probably completed and the mass detached. Sometimes, however, the crack does not follow the groove and line intended. As soon as this deviation is observed, the strikers break off the succession of blows and start again on a "plug" at some distance ahead. From the newly selected "plug" they work backwards along the groove, thus drawing the line of intended cleavage in the direction desired.

When the fracture was completed, the detached portion of the boulder, weighing some fifty or sixty tons, toppled over into the position prepared for it by digging the before-mentioned hole. See diagram, Fig. 2. Pieces "A, B, C, D" were cut off from the fallen mass, making use of the processes above described to effect the subdivision.

"Dressing" the surface of the blocks is done by a rather heavy tool of metal, not altogether unlike an adze, but its sharp end serrated. This tool is let fall vertically on to the surface of the stone, and by it all inequalities are removed. The marks which this tool leaves on the granite are much like those we see on certain unfinished statuettes in the Cairo Museum.

The blocks, some of them weighing 10 tons apiece, were moved by the Italian workmen with ease. Wooden rollers, crowbars and a few screwjacks were employed. The rollers, 6 or 8 inches diameter, were revolved by means of crowbars put into holes prepared near the ends of the rollers. The crowbars were in the same relation to the rollers as are the spokes to the axle of a wheel. The metal tool above referred to is made use of in nearly all European countries where hard stone has to be dealt with.

Mr. Clifton calls attention to the width of the holes cut by the ancients. There is a very well known way by which a wedge, by no means thick, is made to operate in a hole considerably wider than itself. This use of the wedge is known as "wedge and feather." Two plates of metal are inserted in the hole and the wedge is driven down between them: friction with the side of the prepared hole is thus avoided. Did the ancients make use of this device?

From what I have stated above, it is clear that great force is not required to split even a large boulder of granite. When we look at the section, given on the diagram Fig. 2 (not drawn to scale), it seems rather difficult to realize that anything so skin deep as the wedges can produce so great a result. The vertical measurement from "E" to "F," Fig. 2, was about 16 feet, in parts even more.

SOMERS CLARKE.

[Extract of a letter from Mrs. Bertha Broadwood, August 8, 1911.—"You may like to know what *I saw being done* on the very smooth surface of some of the remarkable granite hills in S. India, December, 1883, not very far from Shravana Belagola in Mysore. The *notched edges* of the granite blocks and *posts* with which everything there is made, from temples and bridges to telegraph poles, puzzled me greatly, until I came upon a man making granite posts by the following process:—A line of small hollows is worked in a smooth surface of rock; a little straw is burnt over the hollows, a cupful of water is poured in, and the rock splits along the grooved line of hollows to the depth of several inches. To the best of my recollection, when two splits had been made at the desired distance apart, usually about 14 inches, the granite slab about 5 inches thick was just lifted from its bed by a crowbar; the granite of S. India tends to split horizontally." Mrs. Broadwood had supplied part of this account to Murray's *Handbook of India*, 1891.

The use of the "feathers," or slips of sheet metal, put on each side of the wedge, is to prevent the entry of the wedge crushing and grinding the edges of the stone grooves, which would waste the force used in merely enlarging the hole. The "feathers" spread the pressure without any rubbing of the stone, so that the expansion of the driven wedge all tells in straining the stone to splitting point. "Feathers" were used in Roman times, but there is no evidence of them earlier. The grooves and deeper holes cut in ancient granite work never show any trace of metal on the sides, nor any crushing due to pressure. The Indian system of heating and water chilling, agrees better than any other process to the remains of Egyptian working.—W. M. F. P.]

NEW PORTIONS OF THE ANNALS.

(See diagram at the end of this paper.)

For several years past, students have been tantalized by hearing of fresh pieces of the Egyptian Annals, like the Palermo stone, lying in the Cairo Museum unpublished. Though purchased in 1910, it is not till 1915 that anyone is allowed to study them. After waiting so long, it is disappointing to find that, in so expensive a form of publication, the reproductions are quite inadequate. Too small and indistinct, the plates will be useless whenever a proper edition is issued: and yet this is at a cost of three or four times the amount for which results are published elsewhere.

The main slab now published is about the size of that of Palermo, but is unhappily so much worn that only about a quarter of it can be satisfactorily read. At the first view it adds many important facts of that great document, which will be the foundation of Egyptian history, if ever it can be recovered.

First, the cartouche is used as early as the third king of the Ist dynasty. This is long before it has been found hitherto, the earliest being probably that of Nebka in the IIIrd dynasty. Yet this is not a contemporary document; it was engraved in the IVth dynasty, and so cartouches in the Ist dynasty may not mean more than the early cartouches in the Table of Abydos. It may have been thought proper in the IVth dynasty to put all kings' names into a cartouche.

Second, five predynastic kings of Upper Egypt appear at the top, while on the Palermo piece they are of Lower Egypt. This shows that a long catalogue of kings before Mena was preserved, at least forty names.

Third, there are two headings of kings' names, while the Palermo stone has only one early king, Neteren of the IInd dynasty. The first of these headings has a *ka*-name of three vertical strokes. This cannot agree with any early *ka*-name, except that of Zer. This was sometimes written, when in small spaces, with as few as three strokes, as on the sealings 106, 107 (*R.T.*, II, xv). While naming this, it may be well to warn readers against various wrong readings that have been given for this name; the reading Zer is absolutely certain from such examples as the ivory box, *R.T.*, II, v, 4, and the tomb stele of the king in Cairo, which shows the lashing of the uprights in high relief. With this *ka*-name is a cartouche clearly reading which is certainly the third king of the dynasty, as on the Table of Abydos. Hence Aha must have been the second king, and Narmer=Mena the founder of the dynasty. Zet was the fourth king, and Den the fifth.

Another royal heading is unhappily almost worn away. In the *ka*-name Sir Gaston Maspero believes that he can trace the remains of Semerkhet, quite invisible in the plate. But the plate shows traces in the cartouche which cannot agree to anything but the standing figure of Shemsu=Semerkhet. Until a closer search of the stone may show anything different, it seems we should accept this identification.

The names of the mothers of the kings seem to have been uniformly given, as two are fully known and portions remain in two other instances. This agrees to the matriarchal nature of the early monarchy.

The Reverse of the slab bears the much more detailed entries of annals of the IVth and Vth dynasty, like those on the Palermo stone.

Such are the most obvious results from the largest of the fresh fragments. The three others are not of much value until pieces are found to which they may be joined. One gives part of the name of Khufu, perhaps in the annal of a later king; another is part of the record of a year of Neferefra, fifth king of the Vth dynasty; the third gives part of the annals of Sneferu. The Reverses of all these pieces are worn blank.

A fifth piece I purchased a few years ago, and the circumstances give a little light on the origin of the fragments. Of that at Palermo nothing is known about the source. Three, now at Cairo, were bought from a dealer, and are said to have come from Minieh. The fourth, at Cairo, is said to have been collected from a sebakh digger by one of the Museum guards at Memphis. Now, while I was at Memphis, the sixth piece was offered to me by a petty dealer. I at once bought it, and then handed it to a confidential native to show about quietly, and make enquiries. The story, as gradually obtained, was that it was found in Upper Egypt, had been brought down and sold to a Cairo dealer: from him it had been passed to a Memphite dealer, and so finally to myself. This shows how one piece at Memphis had come from elsewhere, and the Cairo—Memphite piece may have a similar history. The question of the source, or sources, of the pieces is of the utmost interest in view of future search.

Are all the pieces from the same monument, or were there two or more copies of the Annals? The internal evidence suggests that the Palermo and Cairo pieces are by different hands. On the Cairo piece the lines of the top row of kings are irregular and tilted; the main lines of the registers beneath are less regularly cut; the signs on both fragments 1 and 2 of Cairo, suggest that when fresh they were much less beautifully regular than those of Palermo. But on so large a monument, containing over ten thousand signs as first set up, it is very likely that more than one engraver would be employed, and hence differences of cutting do not prove there to have been more than one monument.

Another consideration is the thickness of the slabs. The large piece at Cairo is 2·36 to 2·44 inches thick; and this is stated to be the same as the two small pieces and that at Palermo. On the other hand the piece said to be from Memphis is 3·18 inches thick, and the piece at University College is 2·09 inches thick. These differences are not more than might occur in different parts of a row of slabs, which were at least ten feet long and probably two feet high. If they were loose tablets, then there would be no need for them to be all of the same thickness; if they were built up as a screen, the inequality of the thickness would not be noticed. They might be thicker to one end of the row, or thicker at the base. Before anything can be concluded we need an accurate gauging of all sides of the larger pieces, to see how much they taper in any direction.

When we come to try the agreement of the Palermo and Cairo slabs, the imperfection of the publications stands in the way. There are no dimensions of any well-defined points, only of the rough broken edges; the photographs have been so much trimmed at the edges that the opposite sides are hardly recognizable in outline; the two sides differ in scale in the Berlin plates of Palermo, and in the Cairo plates,—four scales for four views. What is needed is good measurement to

a tenth of a millimetre of the engraved main lines at opposite ends, to see if they are parallel.

For the present we can only assume that the lines on the Obverses of the two slabs were continuous, and are of the same distances apart. The variations of distance are not large enough to prove the monuments to be different.

A principle which has never yet been used is that of the unison of the five rows of year-spaces. In each of these rows (except the lowest two) the spaces are approximately alike in one row, but different in size to those of any other row. Hence, unless the spaces of different rows had exact proportions to each other, there could be no coincidence of the lines in all the rows one over the other, except at the ends of the monument. Each row is like a vernier scale to any other row, rarely coinciding in divisions, and with five rows the chance of all five coinciding is very rare. In practice, however, there is so much small variation in the widths of the spaces, that we cannot be certain how they would agree further than a foot or two from an ascertained point. Within a foot from any known part, we can pretty safely say whether the divisions fall into unison or no.

In the same way we can ascertain at what distance one slab may have been from another, if not far distant, by finding where all the rows of spaces would fall into the required positions, in unison with another slab.

To examine this it is needful to measure the vertical intervals of all the rows on the Cairo slab, and find what proportion it bears to the Palermo slab. It is not needful to know what the absolute size is, but we may adopt the plate of the Palermo Obverse as a standard: really about three-quarters of the full size. The Cairo photograph of Obverse has to be multiplied by 1·55 to agree with the Palermo photograph. The mean width of spaces in the rows then are, in inches—

	Palermo.	Cairo.
A	·510	·417
B	·677 (to ·705) ...	·695 (to ·676)
C	·550 (to ·568) ...	·573 (to ·562)
D	·463	·458 (to ·463)
E	·580 (to ·620) ...	·599 (to ·598)

These differences between the two slabs are not enough to warrant their being from different monuments; in most cases the extreme variation on one slab (given in ellipses) touches the mean on the other. The differences between them make it only practicable to adjust the slabs graphically. The Palermo piece was therefore drawn, and the divisions continued onward to the left on the same scale; the Cairo piece was done similarly, on tracing paper, but with the continuation to the right, as it was clear from the back that the Obverse of Cairo was a short way to the left of that of Palermo. Then by sliding the tracing paper scales over the others the only likely fit was found which would bring all four scales, B to E, into agreement, within their variations. From this results the arrangement of the slabs shown in the two diagrams. As it is very probable that Userkaf and Sahura both began at the edge, we are warranted in accepting the unison of the four scales at the left of the Obverse, as the end of the monument. Thus we know to a single year how the two large slabs stand, and we have what amounts to 55 years on the scale D in fixed order; and by the remaining entries we can extend our knowledge of some lines ten or twenty years farther.

Were the equality of the divisions more accurate, we might discover the opposite end of the monument, by the unison of the scales; but the irregularities prevent accurate conclusions at such a distance.

The indications which we may glean about the positions of the other end of the monument are contradictory. On the Reverse there is at the base the entry of the 7th biennial cattle census of Sahura (marked here *7c*). The second census, in the line above, apparently by the spacing, must have been in the 4th year; hence the 7th census would be the 14th year; and, as nine months of it are marked, the reign was 13 years 9 months, agreeing to 13 years in Manetho. Apparently, therefore, there were 10 years in the whole length of the monument; and, as the years remaining average 6·1 inches, the whole would be 61 inches long.

Having thus found Manetho to be right about Sahura, we might use the 28 years which he gives to Userkaf. But this would give a length of 134 inches; or, if we keep to 61 inches, and Userkaf's year spaces were as short as the shortest indicated, then 18 years must be accepted instead of 28. There is but one year of Shepseskaf, but that would imply a length of 141 inches, if they were uniform, and his reign were 22 years. Thus it is evident that we have not sufficient data for any certain conclusion.

The case is quite as insoluble on the Obverse. If we were to accept Manetho's lengths of reigns, the lengths of the monument would be indicated as between 65 and 113 inches. Of course all these lengths are on the scale of the plate of the Palermo Obverse, to be lengthened by a third more for the actual stone-work. The monument itself must have been at least 7 feet long, or perhaps as much as 12 feet.

The historical points which can be identified in the first two dynasties are much increased by the new material. The reign of Zer is fixed (see Obverse diagram); and it cannot have ended between the slabs, as there is no other name on the Palermo slab. Hence the division on row B of Palermo is that between the reigns of Aha and Zer. That Narmer came in the same row is proved by the predynastic kings extending up close to the end of the first row, A. There is no proof that the line of parentage of the king, above his year spaces, was put in the middle of his reign; it may not have been quite in the middle, but we may presume it likely to have been centred. If so the reign of Zer was 46 years.

In row C, the reign of which the end of the mother's name is on the Palermo slab, probably extended to the division on the Cairo slab; but there might have been a short reign in the gap. If not so, then the reign of Azab=Merpaba was about 56 years; or, if we extend the royal parentage heading like that of Zer, then 57 years. That this belongs to Azab is shown by the next being of Semerkhet, with 9 years of reign. It has been proposed by Prof. Newberry that this long reign of 56 years was of Den by the resemblance of events to those on his tablets. But this position seems difficult in that view, for there would be only a few years of Zer, the reign of Zet, and half of Den to equal the whole of Narmer and Aha who have left such ample remains. By the position alone, these two reigns that we have of row C, should be Azab and Semerkhet. In row D is the name of Neteren; and this if centred must have extended almost to the Cairo slab. As that bears no name, evidently the reign of Neteren extended to a line which can be faintly traced as a terminus. This gives 46 years for the reign. That which follows it is the beginning of the reign of Perabsen.

In row E the Palermo slab states the birth of Khosekhemui, presumably in his father's reign. If so, his father reigned 16 or 17 years. As there is no title on the Cairo slab in this row, the division must be the end of the reign of Khosekhemui, and he reigned 27 years, and lived 30. This agrees practically with the Turin papyrus which gives 28 years' reign,

The summary then of the early dynasties, as shown by the fragments of the Annals, stands as follows. (The kings' names are kept in the forms most familiar, without any prejudice against more elaborate readings.)

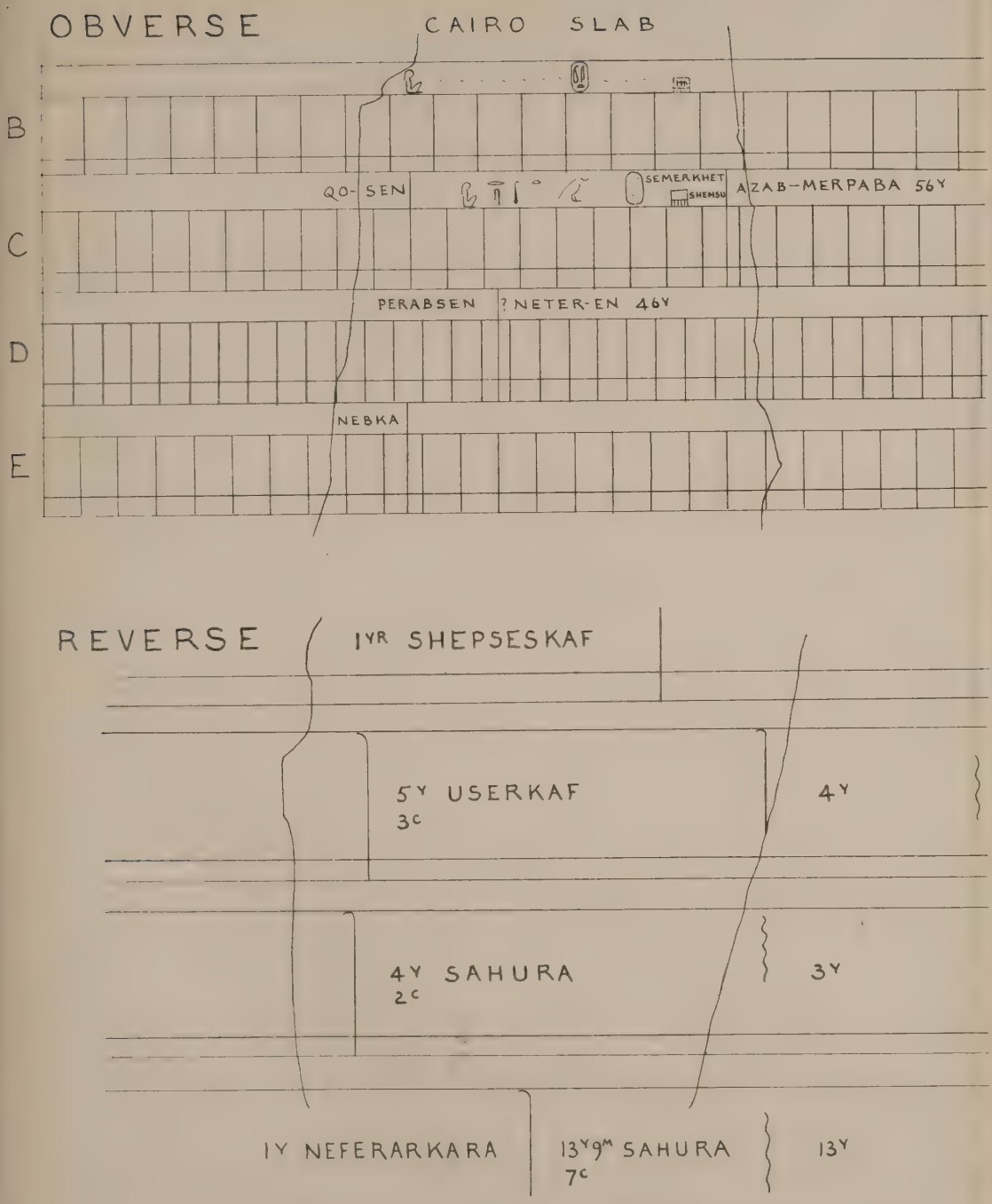
Between 150 to 200 prehistoric names, at least 40 of which were kings of Upper or Lower Egypt, stand at the head of the record. After which comes—

Annals.	Yrs.	Lists.	Yrs.
		Narmer=Mena ...	62
		Aha=Teta	57
Athet=Zer	46	Atthe=Zer	31
		Zet=Ata	23
		Den=Semti	20
	56	Azab=Merpaba ...	26
=Shemsu	9	Semerkhet=Shemsu ...	18
		Qa=Sen	26
		Hetepahaui=Bezau ...	38
		Raneb=Kakau ...	39
Neteren=	46	Neteren=Baneteren ...	47
		Perabsen=Uaznes ...	17
		Send=Senda	41
		Ka-ra=Kaneter ...	17
		Neferkara ...	25
	17	Sekerneferka ...	48
Khosekhemui	27	Khosekhemui	28

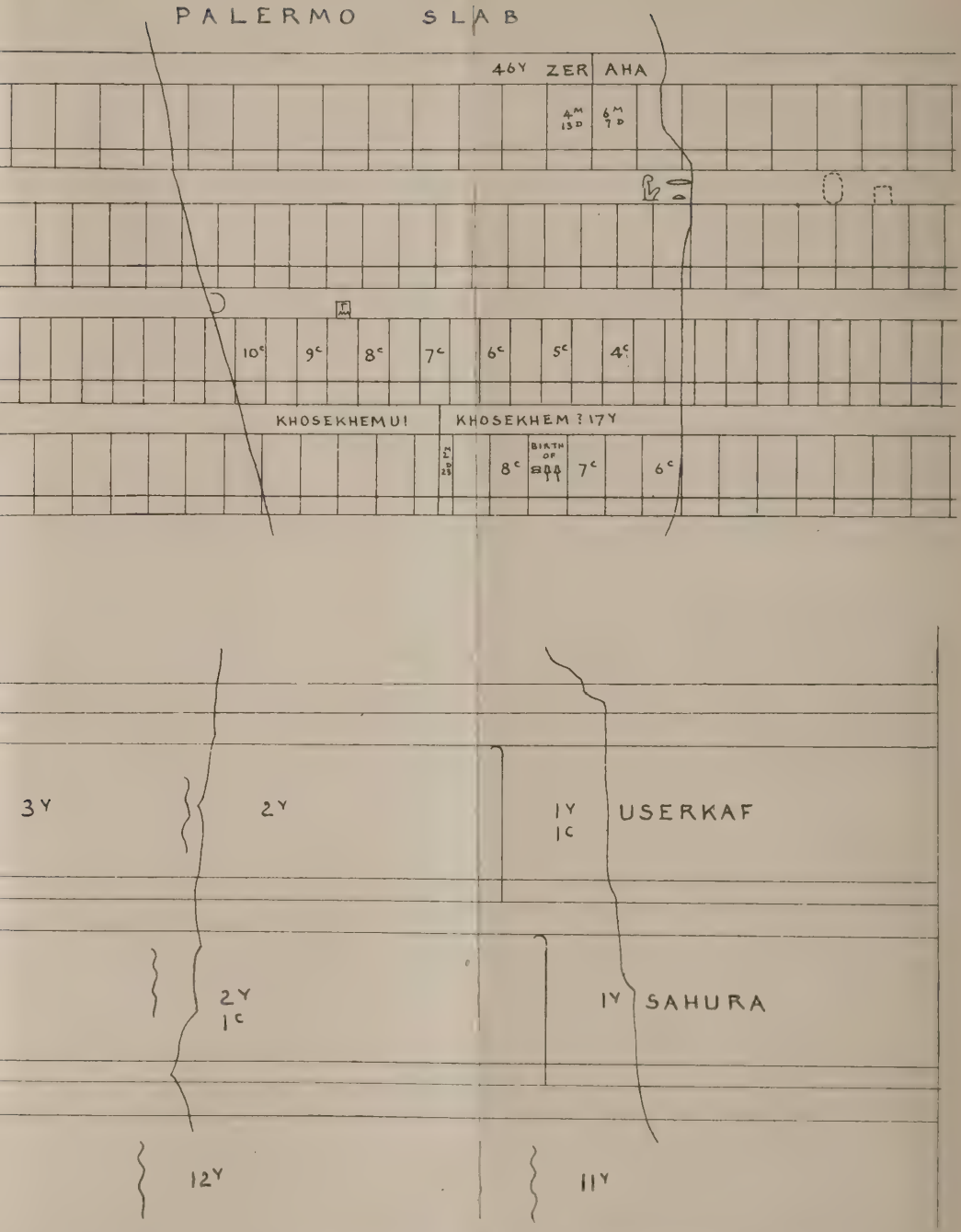
Here the differences between the lengths of reigns in Manetho and in the lists is marked; yet there is an exact agreement in the average of 33 years in both sources. This seems to show that there is no biassed error in Manetho. There is one possible explanation, that there were two modes of reckoning a reign, from death to death of kings, or from co-regency to co-regency. The average would be the same in each case. The Annals certainly show the death point, as there is an interval of 82, 90 or 105 days between the joining reigns—evidently an interregnum of mourning.

It may be worth while to see what would result if we accept the Manetho numbers as those of the virile reign, before the king's old age required—according to African custom—that a virile successor should be appointed. Thus there would be two quite different reckonings, which would only be linked by the impossibility of the virile reign beginning later than the death of the predecessor, or ending later than the death of the king in question. Placing the facts together, and dating from the beginning of the dynasty, the results work out as follows :—

Annals, Death to death reign, Extreme limits possible.	Dynastic years.	Manetho, Virile reign.	
	0 ...	Narmer	62
	62 ...	Aha	119
119–126, Zer 46 yrs	119 ...	Zer	150
to 165–172	150 ...	Zet	173
165–172, Den 56 yrs.	173 ...	Den	193
to 221–228	193 ...	Azab	219
221–228 Semerkhet 9 yrs.	219 ...	Semerkhet	237
to 228–237	237 ...	Qa	263



ORIGINAL RELATION OF THE TWO LARGEST PIECES OF THE ANN



LS OF EGYPT. OBVERSE AND REVERSE. SCALE ABOUT 5:16.

Thus it would appear that Zer lived on through most of the reign of Zet; and that Den outlived Azab, and died in the reign of Semerkhet, so that Azab does not appear at all in the Annals. There is only an uncertain connection of 7 years (119 to 126), which length of time must cover the whole co-regencies of Aha—Zer, and of Semerkhet—Qa. The latter co-regency was probably short, owing to the short reign of Semerkhet, so most of the 7 years probably belongs to the period of Aha—Zer. In the reigns of Neteren and Khosekhemui the Annals and the MSS. agree to a year, so that no serious co-regencies are likely.

There are also some other possibilities to consider. In the 9th year of Zer, or year 128–137, there is an entry of the first festival of Zet, or Uazet, as this entry and also the king's name should probably be read. And about the 33rd year of Den, or year 198–207, is a second festival of Uazet. What if these were the years of the birth and death of King Zet, he being born at, and named from, a festival of the

PART OF THE ANNALS OF THE SECOND DYNASTY.
UNIVERSITY COLLEGE, LONDON.

goddess, and a festival to the goddess being held at his death? This would give a life history of Zet as being co-regent at twenty-two, or less, and dying at seventy years of age. This is consistent, and makes us look at another entry, as yet untranslated. In the 38th year of Den, or year 203–210, there is a figure of Shemsu. What if this is the year of the birth of Semerkhet = Shemsu? It would make him sixteen years old, or less, at his co-regency, and thirty-four, or less, at his death.

These results of adopting the Annals as of vital reigns, and the MSS. as of virile reigns, seem reasonable enough to be kept in view. The most satisfactory

result is that thus the long reign of 56 years belongs to Den, and so keeps the connections which Prof. Newberry has shown between the events on the Annals and on the tomb tablets of Den.

Such seems to be all that can yet be extracted on the historical position. The complete solution must depend on some more large pieces of the Annals being found. The problem of the number of copies has to be settled, and the amount of resemblance between them. Whether this was a monument for the palace, for the Nilometer, or for the temple has to be considered. Until the Department of Antiquities will renew the same conditions as before for the very costly and difficult clearances deep under water level, there seems little hope of a regular search for the rest of the most important monument of all past ages.

The piece of the Annals here published, which I bought in Egypt, is from the Khosekhemui register, and shows the top of a year-sign of the Sneferu register. The horizontal lines are 21·7 and 10·0 mm. apart; the vertical are 18·5 and 20·0 mm. apart. The thickness is 53 mm. On the back is a small area of the Vth dynasty Annals, well engraved with clean-cut, though shallow, lines. Only the numerals 24 and 31 + *n* are left, beside the *ă* bird and twisted rope *h*. The photograph is of the actual size. The stone is a hard jet-black quartzose rock, like that at Palermo. It is now at University College, London.

W. M. Flinders Petrie.

THE TEMPLE OF RAMESES II AT ABYDOS.

IT is the misfortune of Egyptology that great monuments are seldom published in their entirety. We have to be content with little bits here and there, and can only be thankful that even that small amount is made available for study.

The temple of Rameses II, at Abydos, has been eclipsed by the much finer one of Sety I, and the only publication is the inadequate one by Mariette (*Abydos*, II).. Therefore, on the principle that half a loaf is better than no bread, I publish here the notes and photographs which Mr. Hugh Stannus, F.R.I.B.A., made at Abydos during the winter of 1902–3. He had intended to publish a complete architectural study of the temple, but he died before he had even begun to cast the work into shape. He left the notebook, in which he had entered the detailed measurements, and sketch plans, and with these were some photographs of bas-reliefs and principal architectural features of the temple.

It is impossible to make out from the notes of another person what that person himself could have made; so this work of Mr. Stannus must not be judged by the meagre results which I have obtained.

In the letterpress on each plate the words in inverted commas are Mr. Stannus's notes which accompany the sketch plans in his notebook. The lettering of the chambers here is continued as that of Mariette, in order to avoid confusion. Besides the notes given on the plates, I add here some further details on the various halls and chambers, referring to the plan at the end of this paper:—

"In all rooms, etc., and generally, the stones are in alternate courses, so that no joint comes in a corner. A result is that corners are not square, but slightly inclined and rounded."

Osirid court A. "The Osirids are of sandstone: three courses (above plinth) remain. The joints are as shown below. Sizes and heights are very irregular." [Put 2 sketches here.] "The facing-row has the second course to be a through-course, in the other rows the third course is a through-course." [4 sketches here.] "The skreens between piers are limestone." "All the piers were whitened and storiated." "Storiation carried on both pieces across the joints on to faces of piers; but there are no figures or other things carried across the joints." "The facing row of Osirids is 2 feet 10 inches above the others. They were altered, at '00' plinth cut away, to be flush with skreens."

Chamber D. "Portal of sanctuary. Pieces of red granite. The jambs were sandstone." S.W. wall: "Dado interrupted by alabaster 'doors,' down to pavement." Mariette says the ceiling was of red granite, inscribed; parois en albâtre sur une plinthe en beau grès statuaire à grain très-fin.

Chamber E. "Walls show barque on each side." Mariette notes a bench in this room, and says the boat had the head of Isis.

Chamber F. "Tehuti leads king to Osiris—on end wall." Mariette notes a bench.

Chamber G. "Right hand, barque." At end, "King as Osiris. Two gods pouring ☥ and 𓋴 over king's head." Mariette has reversed the inscriptions in his plates. Thus the inscriptions on Plates 14 and 15 of his *Abydos*, II, should read from left to right. The head of the kneeling figure of the king, and the three vertical lines of inscription behind him, are just visible on the end wall in the photograph. S.W. end, "No shelf here: reliefs instead." N.W. side, "Barque of R. II."

Chamber H. S.W. end, "No shelf here: marks of fire."

Chamber I. Lintel of doorway, sandstone. Mariette notes a bench.

Chambers J, K. Mariette notes a bench in each.

Chamber L. "End wall, Isis presents king to Osiris." Mariette notes only a bench.

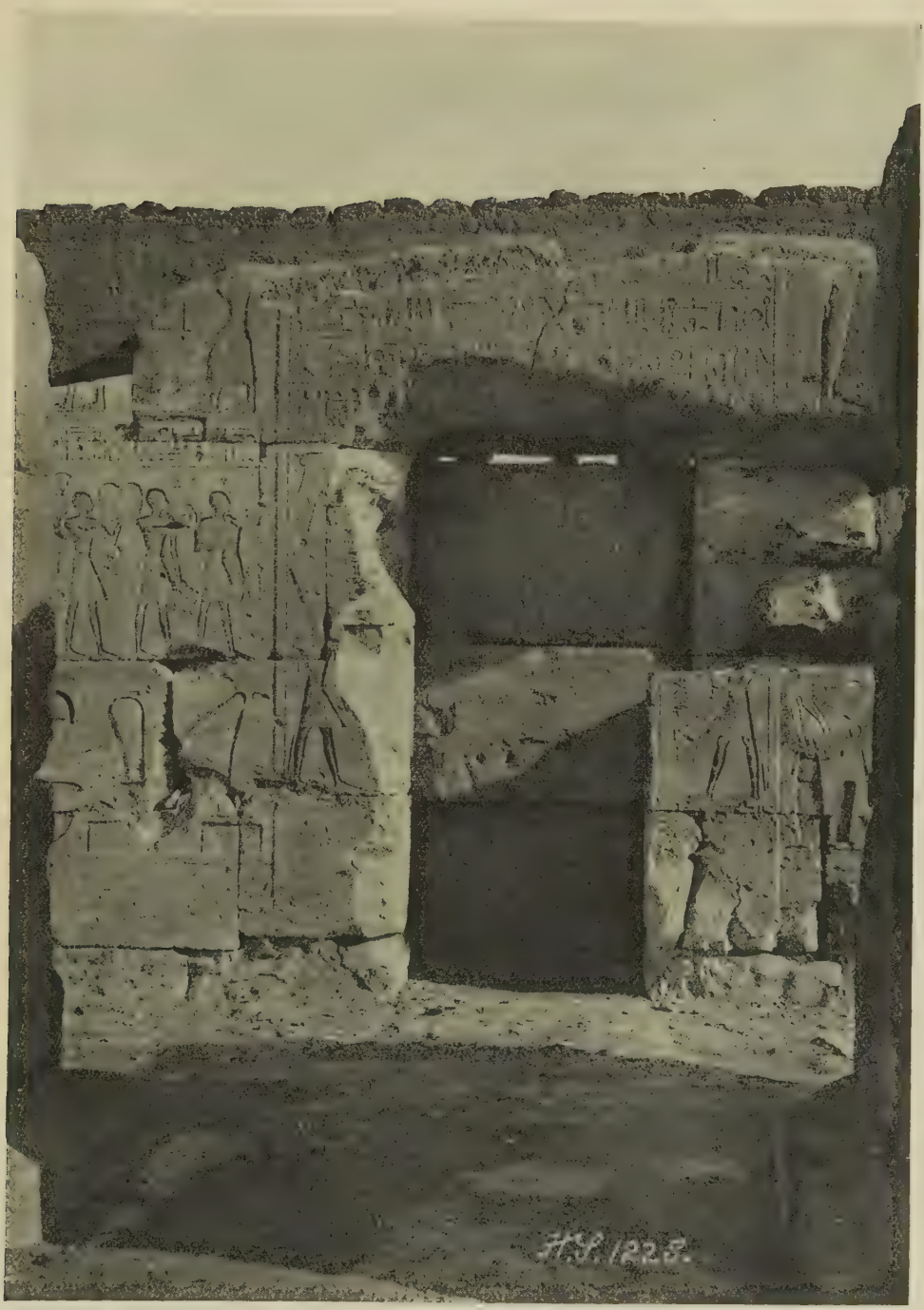
Chamber M. "Shelf projects 9 inches beyond blocking which supports it." Mariette gives (p. 23) the names of the guardians of the doors of the nine niches on the N. side.

Chamber N. S.W. end, "No sign of shelf." It was in this chamber that the list of kings was found, see Mariette, Plate 18. Mariette also remarks that the door on the N.W. into first hypostyle, B, was cut after the decoration was finished, and was placed with the utmost care so as not to damage or interfere with the sculpture.

Chamber O. "Piece of sandstone ceiling." Mariette notes on the S.E. side a large votive boat set on a quadrangular stand, the boat bearing the cartouches of Sety I (Mariette, *Abydos*, II, p. 24).

Chambers P, Q, R. "Jambs slightly splayed about 0·4 inch on each side.

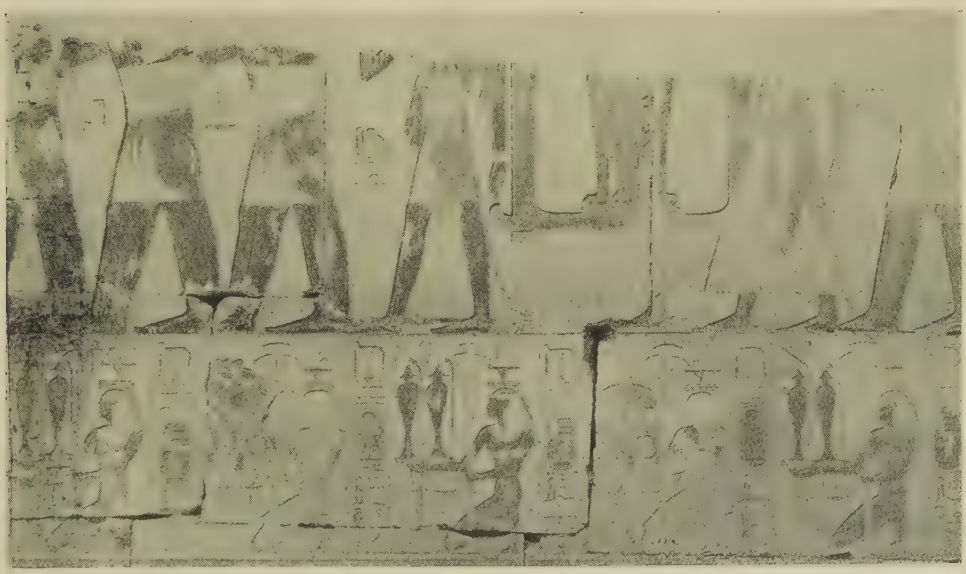
Chamber S. "Walls, hard limestone. Piers, sandstone painted white. Insides, *i.e.*, reveals and backs of the nine cupboards, carved and painted in Sety style of relief."



1. Osirid court, A. Blocked doorway on S.E. side, taken from within the court between the second and third Osirid figures. On left upper register, bearers of offerings with backs to door; middle register, bearers of offerings facing towards door, carrying various offerings for the . Lowest register shows beginning of royal titles in large hieroglyphs; the inscription appears to end with the seated figure on the same level on the right of the door.

2. Osirid court, A. Third Osirid figure on S.E. side. The blocked door is partly visible on left. Names and titles of king are given in vertical inscriptions down front of figure and on pier. On wall at back are figures carrying beer, according to the inscription copied at the side.

3. Osirid court, A. N.W. wall, see Mariette's, *Abydos*, II, *7a–c*. This procession of the prize cattle, has the normal ox in front, and the ox with deformed, or "crumpled," horn behind. This artificial twisting of the horn is still done in Africa. In the middle is the oryx led by "The herdsman of the oryx of tethered cattle of the eternal house (tomb) called *Ramessu mery Amen Khnemt kher Abdu*." Mariette's copy has divided the upper line of inscription wrongly, as also in other cases.



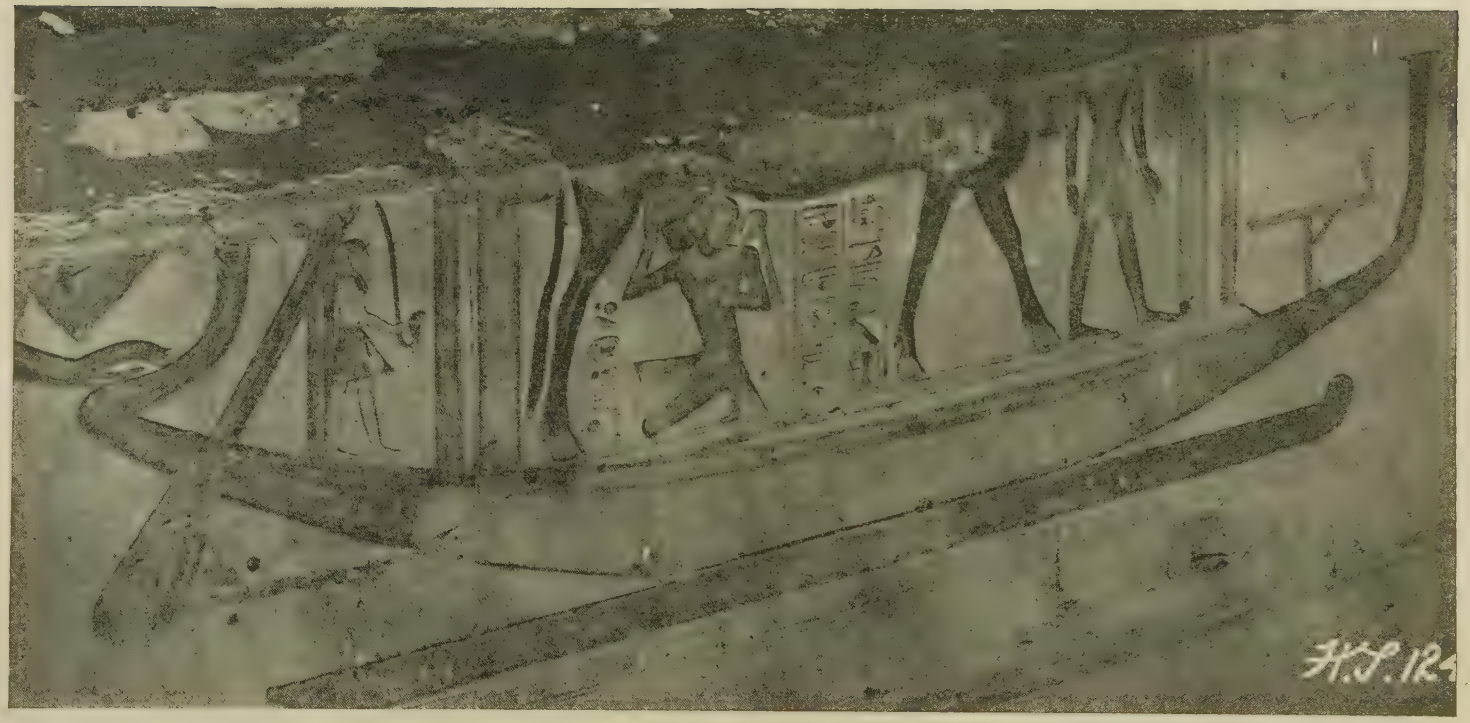
4. First hypostyle hall, B. North-west wall, see Mariette, *Abydos*, II, Plate 12, Nos. 15–19 inclusive. The lion-footed shrine(?) is carried by priests walking four abreast. The nome figures below are of Aa-mater, Zerti (IVth), Ani, Uast, Maad, of Upper Egypt, alternately male with food offerings, and female with drink offerings.

5. First hypostyle hall, B. Taken from the top of the N.E. dividing wall, showing several pillars, and doorway into Chamber I. On the left is a fragment of wall with kneeling male figures, with nome signs on their heads, making offerings. Above has been a scene of the king offering to Ptah. The inscriptions are chiefly the names and titles of Rameses II.

6. Chamber J. Doorway taken from N.W., looking across second hypostyle hall, C, to Chamber P. Bases of pillars are seen on the right, the dividing wall of the two halls on the left. The ornament above the winged disk consists of "two cartouches on *nubs*, three *khekers*, four repeats + two cartouches."

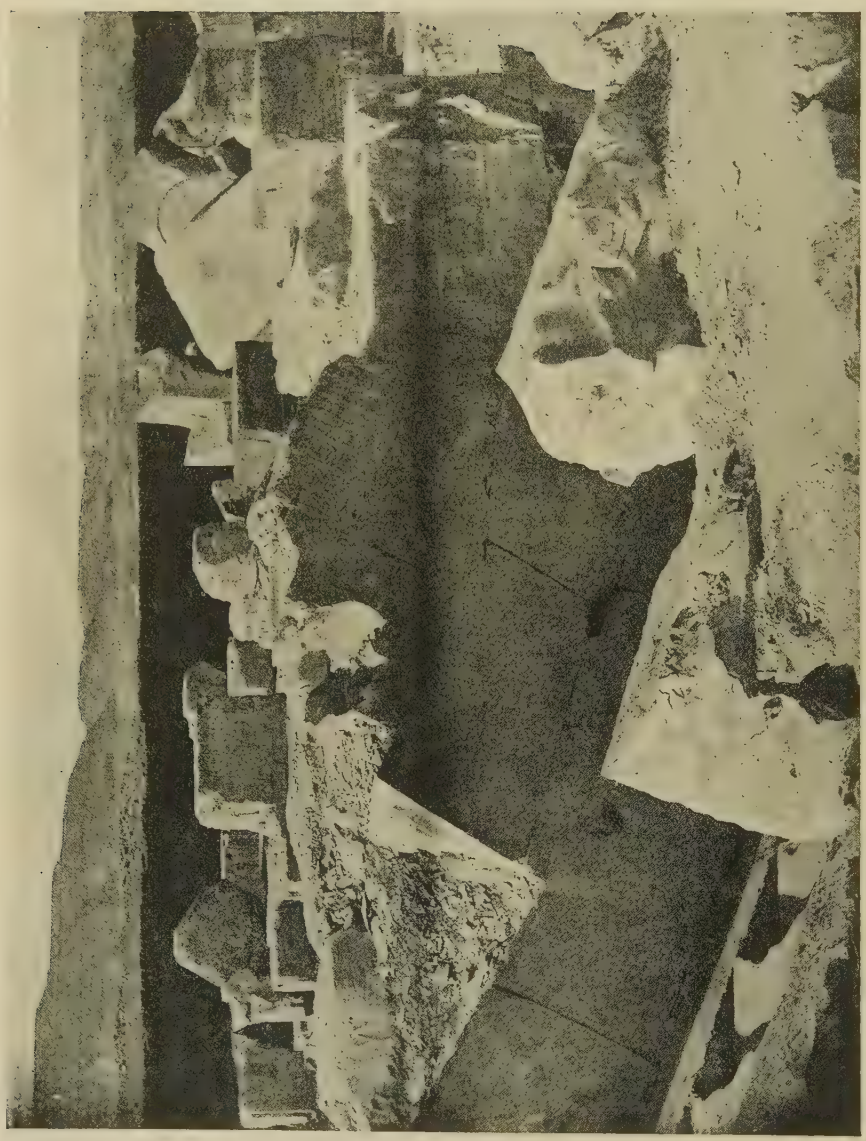
7. Chambers J and I. Taken from top of wall on N.W., looking across first hypostyle hall, B, to stairs. Doorway of Chamber J on right, of I on left. Two pillars of second hypostyle hall, C, are visible through doorway of J. Lintel of doorway of I is sandstone. The cross wall has been removed at the top, and through the gap thus formed is seen the stairway on the south side of the temple.

8. Chambers J, K, L. From top of N.W. wall of Chamber M. In K, "Right hand, barque, Min." In L, "Left hand, Nu (god), king offering incense; right hand, Ra, king offering."



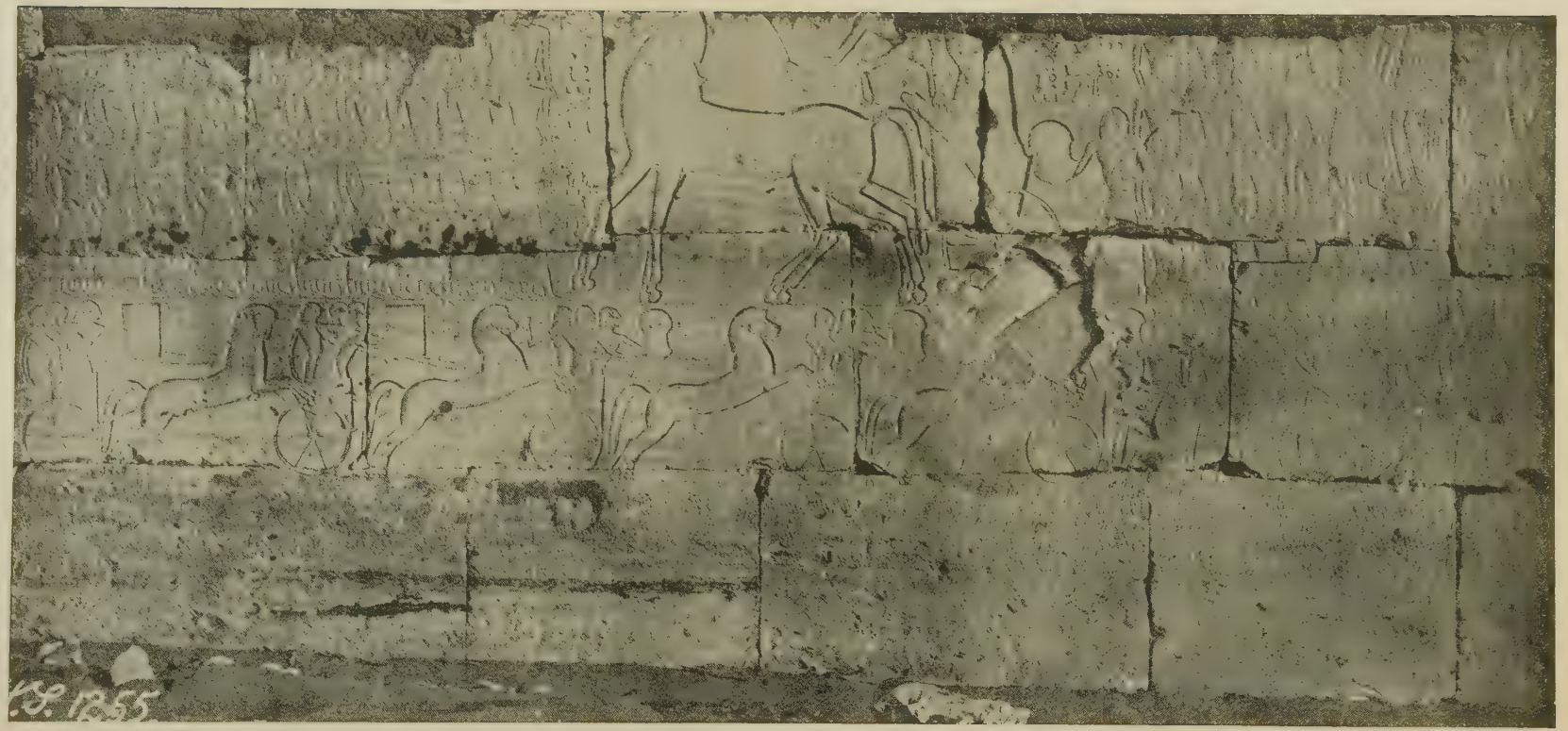
9. Room H. North-west wall. Mariette says (p. 22) "Un seul fragment d'une des scènes qui décoraient l'intérieur de la chambre est encore visible: on y voit Ramsès à genoux s'abreuvant aux mamelles de la vache divine." He has omitted the inscriptions.

10. Chamber G. North-west wall, see Mariette, *Abydos*, II, Plates 14–17, pp. 17–22: "Le roi est represente assis au milieu d'une grande barque trainée par six génies. Le cortège s'avance vers Thoth. La décoration des murs descende jusqu'au dallage." In the photograph the hieroglyphs of the lowest register are very faint, but they can be identified with Mariette's copy.



II. Staircase. South-west wall taken from N.E. "The risers are 4½ inches high, treads 1 foot 2 inches (sloped)." Mariette does not appear to mention the staircase.

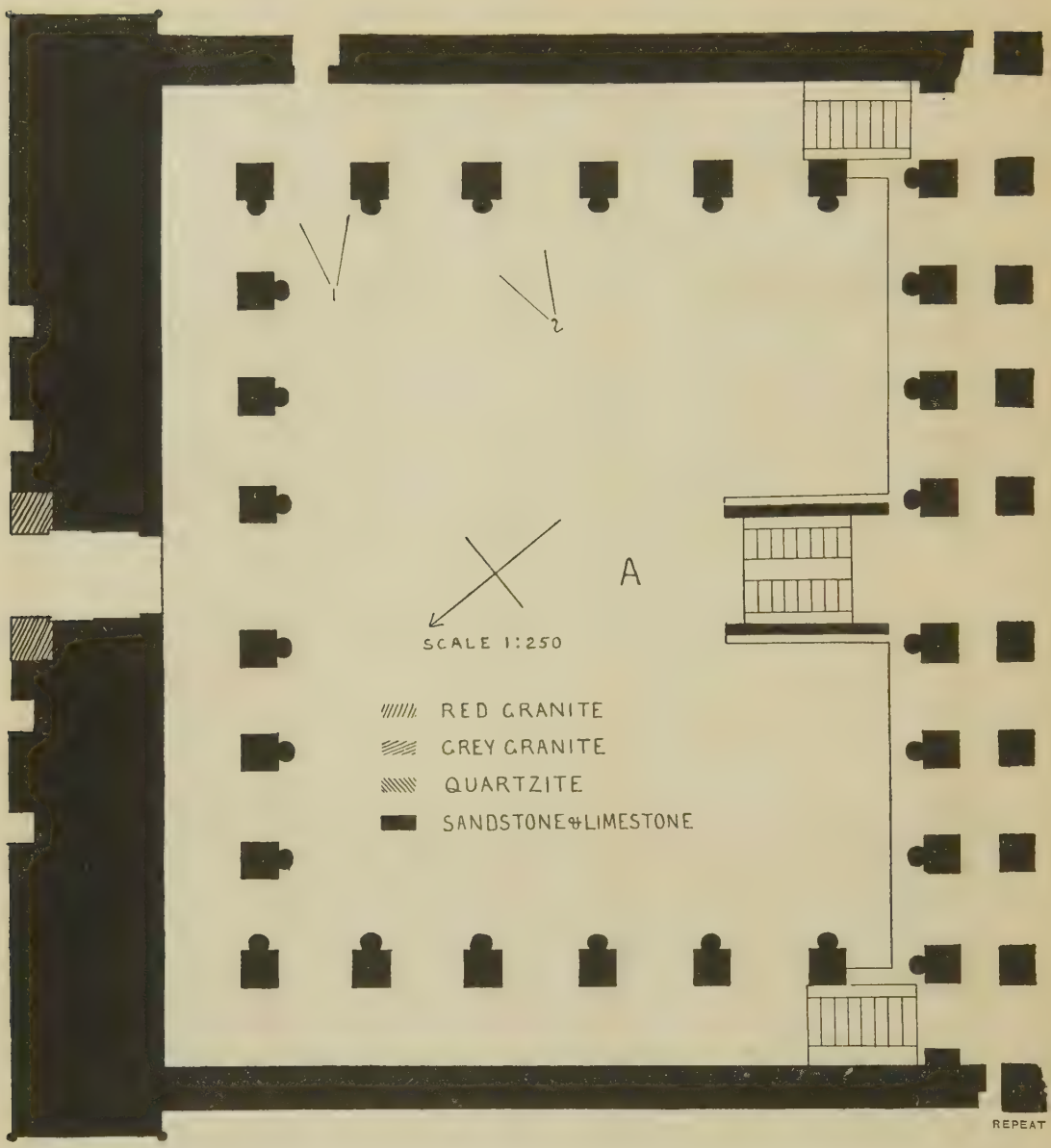
12. Chamber P. See Mariette, *Abydos*, II, Plate 19*c*. The inscription below the shrine does not appear in Mariette's copy ; it reads : " Escorting clothing to the great shrine," showing that the case is a linen chest.



13. Outside wall, N.W. side. On the upper line is the retreat of the Hittites, with the drowned chief being held upside down, and in front of the royal chariot is a column: "The enemy of the Khita, multitudes hastening of people and of horses." In the line below are chariots of Hittites and Amorites with shields, as in the next view; note the unusual figure of the last charioteer, pulling up his horse.

14. Outside wall, S.W. end of N.W. side. Battle of Kedesh. Note the Amorites with square shields and the Hittites with shields contracted in the middle, like a Mykenaean or Boeotian buckler.

15. Outside wall, S.W. end of N.W. side. Hittite and Amorite chariots fleeing up hill, probably to a fortress.

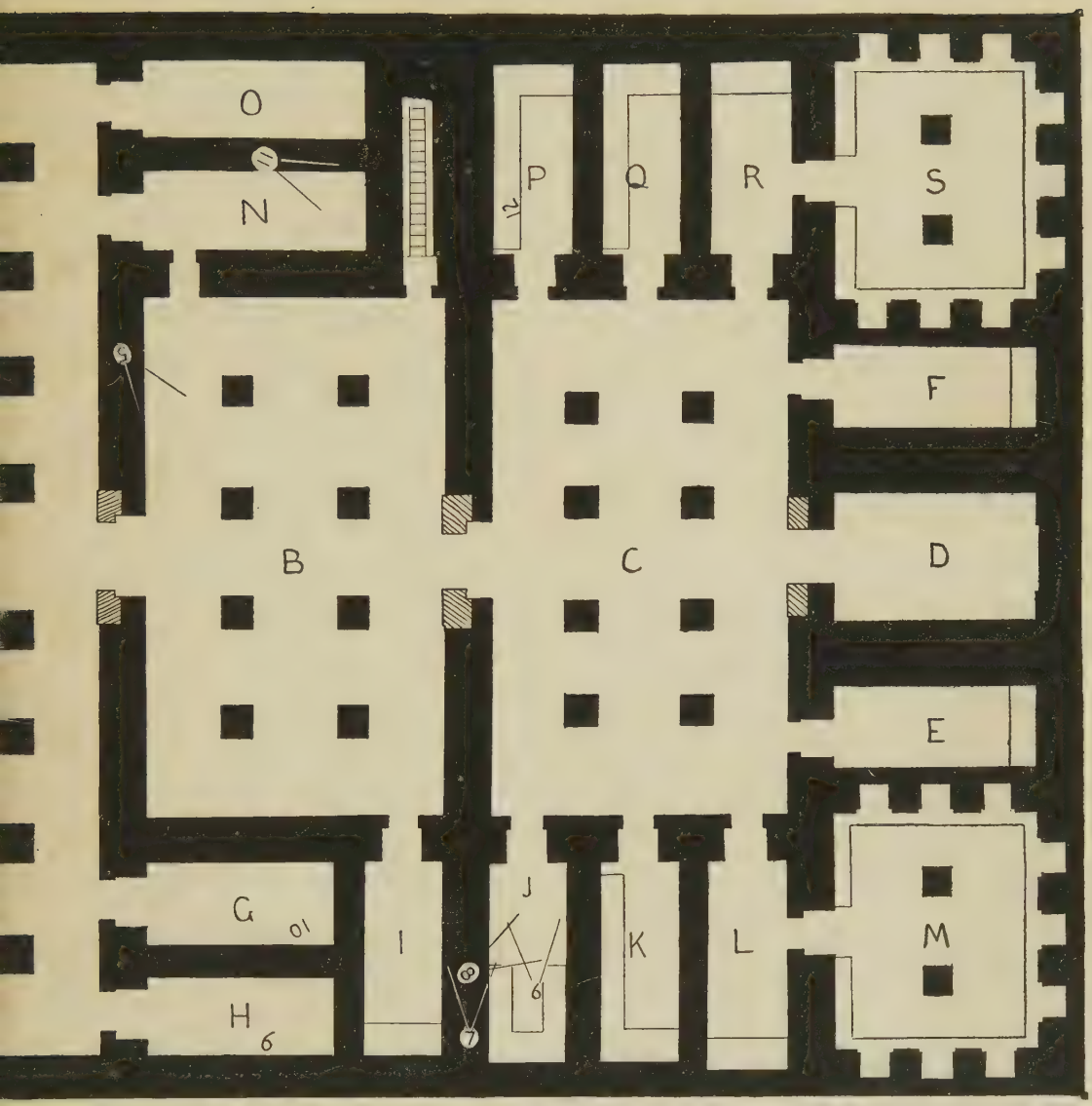


Plan.—Drawn by Captain G. U. Yule, R.E., from Mr. Stannus's measurements and sketch plans.

A few notes are needed in explanation of the plan.

The lettering is that of Mariette, continued. The temple lies square with the river line, the entrance being towards the river as usual. On this plan the point of view of each photograph is numbered, corresponding with the number of the view here. The range of each view is marked by two radii drawn from the point of view. The jambs of the great gateways are all massive piers of hard stone, varying in nature as here shaded. The purpose of these was to prevent the overthrow of the doors in a siege. The recesses in the sides of the entrance gateway are of the breadth of each half of the gate.

In the great Osirid court, A, the pillars are on the ground level on three sides, but are raised on a platform along the back. Two side stairways, and one in the



PEAT.

middle, give access to the higher level of the temple. The middle stairs have smooth slopes at the sides (like the other stairs), and also in the middle, evidently to assist in sliding up heavy shrines or furniture of the temple. The plan is here divided in two, for printing on the page; the row of pillars is repeated on both halves of the plan, to fix the connection.

In the rooms opening off the second hypostyle hall, C, there are stone benches, for placing the temple furniture upon. In the two corner halls, M and S, are benches on all sides, and recesses which had doors, for holding the smaller objects. These rooms only open out of another room; thus two doors would have to be forced in order to attack them. It will be noticed that the widening of the entrance of each chamber to hold the door, is always wider on the right hand; this shows that the door opened on the left, *i.e.*, was to be pushed open by the right hand. In Chamber N, the doorway into the hall B, by the direction of it, was intended to

guard B from N, that is to say, the chamber N was to be left in use, while B and all the interior of the temple was kept closed. From the direction of the opening of the doors at the sides of the great court, A, it seems that they were not intended for exit, but to open into storerooms which had to be guarded from attack in the court.

The whole of the work is irregular, the pillars and spaces and sides of halls all varying an inch or two without any regard for more accuracy than appeared to the eye.

M. A. Murray.

REVIEWS.

Le Tissage aux Cartons, et son utilisation décorative dans l'Égypte Ancienne. Par A. van GENNEP et G. JÉQUIER. 130 pp., 12 plates. 4to. 120 frs. 1916. (Neuchatel: Delachaux et Niestlé).

This volume is perhaps the finest work ever issued on any ancient technique, both in its completeness of material and practical study, and in the beauty of its illustrations. The only misfortune is that such a book must be costly. It combines the ethnological work and technical skill of M. van Gennep, with the full knowledge of Prof. Jéquier, which our readers will remember by his work on Egyptian civilisation (ANCIENT EGYPT, 1914, p. 86). The illustrations alone are a joy to see: forty-eight colour photographs of various patterns of belts, five actual specimens of the woven patterns, and nearly two hundred black and white illustrations, serve to exhibit and explain every part of the subject. What the subject is will puzzle most readers, until they read about it, for it is an art which has totally disappeared in modern civilisation, and only lingers in countries where art is not machine made, and where humble workers can yet give scope to their own skill and designs.

This kind of weaving has been traced in Egypt from the beginning of the dynasties down to our own generation, but is almost extinct, having become reduced in Cairo to coarse work of one old man, without any apprentice. It was practised in ancient Libya, Aegea, Syria, Persia, Elam, and East Prussia; and it is still a living art in Japan, China, Birmah, India, Himalaya, Sikkim, Tibet, Tashkend, Minsk, Persia, Baghdad, Armenia, Caucasus, Damascus, Jerusalem, Tunis, Algeria, Asia Minor, Bulgaria, Bosnia, Poland, and Iceland. In any country where narrow, thick bands, or ribbons, of complex patterns are found, there is a presumption that this peculiar weaving is practised, and the work should be examined as to its methods. The woven bands of inscriptions, whether from Birmah, Persia, Poland, or Iceland, are all made on this system.

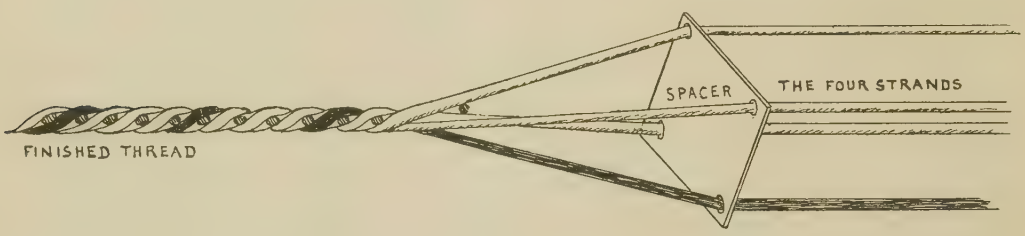
This mode of weaving, which has been curiously lost to sight in western lands, has been called after the little spacers used to keep the threads apart,—*tissage aux cartons* from the spacers of card, or *Brettchen weberei* from the spacers of wood. In English the most intelligible term seems to be from the principle of the work,—twisted weaving; though, to avoid confusion, "carton-weaving" would be technically preferred. The essential principle of it is to have a many-coloured twist of thread, and to turn upward whichever colour is required. To take the simplest case, suppose an upright loom with each of the vertical warp threads made of two strands, red and white. If the shuttle is passed, not over and under the warp, but between the red and white strands of each thread, splitting the twist,—then, whether the red or the white appears on the face of the stuff, depends on which is next to the weaver. It is possible to have the whole surface, or any part of it, red or white. The colour entirely depends on which strand of the thread is outwards.

In order to part the strands of the thread so as to pass the shuttle or needle of the weft, a small spacer is needed to keep an open channel. If there were only two strands a bar would suffice; when there are three, four, or even six strands in one

thread, then a plate pierced with holes for each strand is required. As the plate is turned round, any one of the strands can be brought outward for the warp thread to pass behind it. Thus there must be as many spacers as there are threads, each with as many holes as there are different strands in a thread.

From the actual specimens provided in the book, it will be seen that for ordinary stout material about twenty-five threads are used—and as many spacers—to produce one inch width of stuff. The greatest number of threads worked at once is about three hundred, and M. van Gennap has worked with a hundred to a hundred and fifty at once. Thus bands of four inches wide are readily made, and as much as eight or ten inches width is possible.

In looking at a piece woven uniformly with a systematic shifting of the spaces, tracing along one thread the number of crossing wefts before the direction of twist is reversed, or the same order of colours recurs, shows the number of strands in the thread, or of holes in its spacer. In complex patterns such as inscriptions, the movement of twist of the thread must be irregular. Suppose, for instance, that a red inscription on a white ground was wanted, then by having four threads on the spacer, red and white alternate, the white can be kept always up in the stuff by a half rotation each time until the red is wanted, when a quarter turn will bring



a red thread up. The diagram of a section of stuff shows a single thread of four strands, pierced by the weft threads, and with the strands separated by the spacer, ready to pass the weft-needle or shuttle. Perhaps the very common pointed rib-bones, usually called netting bones, were for this work, the thread being wound upon them.

Having noticed the diffusion and the principles of this kind of work, we may summarize the Egyptian forms of it which are described by Prof. Jéquier. First, the various patterns of zigzags and lozenges of the belts on royal statues are collected, and all shown to conform to the style of the patterns of twisted weaving. The V-patterns down the kilts are of the same styles. Pouches for carrying daggers are also similar.

The patterns of the stripes on the early façades and false doors are collected, and prove to be of the same fabric. Here a long section (14 pages) is devoted to the panelled building work; and the wooden origin of it all is repudiated (p. 36) on the ground of the simpler houses of the peasants being of mud brick. Unfortunately, the author has not noticed that the actual timbers of such wooden houses have been found in the first dynasty (*Tarkhan I*, Plate IX, published three years before). The wooden house had narrow openings which could be closed at night; during the day they were open for air, but shaded by strips of this twist-weaving, lashed down at the bottom to prevent their blowing out of place. There would have been no purpose in hanging weavings over a brick building; but as the structure was of vertical wooden planks, with narrow openings, such strips of coloured weaving were exactly required to shade the spaces.

The various types of geometrical pattern are classified, and lettered M to U, with the sub-varieties numbered. One of the most successful restorations is that of the curious chain pattern seen on the painted façades; this is closely reproduced in the twisted weaving on Plate IX, 1, 2, which seems thus to solve the origin of this puzzling decoration. The patterns engraved on the ivory and woodwork of the Ist dynasty, are also exactly reproduced by woven designs, and we must accept them as evidence for the use of such fabrics, although the originals have entirely disappeared.

The variegated dresses of the Syrians and Aegeans are of stripes of twisted weaving patterns. It seems probable that the strips of about a couple of inches width were made separately, and then stitched together to form a wider stuff for dress.

There is, then, here an excellent and full account of a perishing art, which has had a large place in ancient work, and which should be recognized at sight by all archaeologists. We should be grateful that it has been so thoroughly studied and explained.

The Influence of Ancient Egyptian Civilisation in the East and in America. By G. ELLIOT SMITH. 32 pp., 4 plates, 8vo. 1916. (Manchester University Press.)

This amplification of a lecture is not a favourable means of judging of new theories. In such a form, declaration has to do duty for demonstration, and it is impossible to present a scientific argument for a fiftieth of the propositions that are put forward in such a space. It is the more needful, therefore, to learn in what sense various forms of assertion are used, in order to know the weight that they should have in the reader's mind. We must begin by thus separating the mode of presentment from the further question of the results of the facts stated.

"There can be no doubt that it was the Phoenicians, lured forth into the unknown oceans in search of gold, who first broke through the bounds of the Ancient East, and whose ships embarked upon these earliest maritime adventures on the grand scale" (p. 8). We happen to know that gold was abundant, without any voyage, in Asia Minor and in Persia, in the time of the Phoenicians, apparently more than was obtained from any other source. The greatest enterprise of Phoenicia, founding Carthage, was not due to the lure of gold, for it was some centuries before it was enriched by Spain. As to the Phoenicians first breaking through the bounds of the East we have no evidence. Egypt continually traded down the Red Sea, and that there was traffic on to the Persian Gulf is most probable. Hence, when we read that "there can be no doubt" about these assertions, it must be regarded only as a personal belief.

Then we read of the Phoenicians that "only one pearl field in the whole world (the West Australian site at Broome) escaped their exploitation." This vast claim not only has no proofs, but seems physically incapable of proof. Such statements therefore must be accepted as showing the author's mental attitude in science, but not further. Of another recent theory of very uncertain character, and contrary to most of the facts, we read that it is "abundantly clear," and that it is "no longer possible to doubt." Here, again, we only touch on the author's frame of mind.

It appears then that we must seek for the facts which are to prove the propositions, and frame our own judgment upon them. They are hard to find, because, though a multitude of things are mentioned, the degree of their similarity, and their dissimilarity from other things, is never expressed. One of the most

definite details is the statement that the mummification practised in the XXIst dynasty (but not any earlier stage) was carried eastward, and is found in Eastern Asia still practised. Now we must accept this as Dr. Elliot Smith's conclusion, for we have not any details before us at first hand. Yet what does it postulate? That a system has changed every few centuries in Egypt, so that it is precisely that of the XXIst dynasty that is specified; and yet, as soon as it left Egypt, it was maintained in the same stage for nearly 3,000 years although with different conditions, climate, and population. This would be about as difficult to credit as any theory ever proposed; to believe in independent invention is by far the more likely course.

Failing to find a single clear demonstration of connection, excluding any other explanation, let us turn to one of the most readily defined matters, the forms of tools, of which we have a fair amount of accurate evidence. The theory that the use of metal tools originated in Egypt, has been warmly taken up from Dr. Reisner by Dr. Elliot Smith. If Egypt was the source of the tools, naturally the forms should be the same in the borrowing countries. Now the facts are that all the most usual tools of early Egypt are unknown elsewhere, and the most usual tools of other lands are unknown in Egypt. There are eighteen varieties of tools peculiar to Egypt, the main ones being the flat square axe, the round axe, the axe with lugs, the round topped adze, the necked adze, the sharp-edge stick, the dagger with crescent handle, and the dagger with parallel ribbing. Not one of these are known in the lands around Egypt. On the other hand, the pillowy axe, the socket handle, the tang and flange handle, the pierced axe or hammer, and the girdle knife, all of the commonest forms of other lands, are quite unknown till Roman times in Egypt. This implies that each land had its own vigorous and independent civilisation, which might be added to, but which was never supplanted; and the use of metals grew up on quite independent lines in Egypt and other lands. Here is something concrete, and capable of exact and exclusive proof.

When we find claimed as evidences of connection between civilisations, the use of stone seats, of conch shells, of pearls, of most of what is common to nearly all mankind, we seem to have gone back to the old antiquarian speculations of the eighteenth century; and common sense refuses to yield up the scientific methods of proof which later generations have clarified.

The Turquoise.—JOSEPH E. POGUE. 4to, 162 pp., 22 plates. National Academy of Sciences, Washington. Vol. XII, Part II, 3rd Memoir. 1915.

This is another of the thorough studies of sources and details by which Americans are building up a scientific literature of their own. The writer had full opportunities, being Assistant Curator of Minerals in the U.S.A. National Museum, and having studied the collections of America, London, Paris, and Berlin.

A full recital of the ancient references to turquoise is given, with translations of authors, ancient and mediaeval. The chemical and physical nature of the stone is completely stated. The occurrences of it in Sinai are described from all sources, with the general circumstances of its discovery and working, ancient and modern, occupying over six pages, with ample references. There follow accounts of all the other sources in the world, especially in America.

The use of turquoise is then considered at length. The Egyptian jewellery with this stone is described; a full account is given of how it is worked up in Persia, India, Tibet, China, and America, especially detailing the extensive use of it in Mexico.

The mythology and folklore of turquoise is then recounted, principally European and Mexican. Lastly, the technology, modern cutting, imitations, and amount mined in recent times is described from a business point. A full bibliography of eighteen pages ends the book. The plates illustrate specimens of turquoise (coloured), the mining sites, and jewellery from various countries. The weird turquoise mosaics or veneers on heads and other forms, are mostly illustrated here. The wide extent of treatment of the subject, and completeness of detail and reference, will probably make this the standard work for a century to come.

Annual Archaeological Reports, 1914, 1915. By ROWLAND B. ORR. 99 plates, 118 pp., 8vo. Toronto, Ontario.

These Reports show the wide general interest in North American civilisation fostered at the Ontario Museum ; and though not directly touching Egypt, they give details which are of service for comparison. The figures on the carved tobacco pipes are of much the same level of work as the figures of prehistoric Egypt, giving one equation for realizing the culture of the early Egyptians. Another paper on the Cross in American sculpture raises the old question of independent invention. The great example of the Palenque Cross looks strongly as if it was influenced by the forms of the seventh century A.D. which are given on p. 108 in the present number. A paper on games gives details of the gaming pieces which are imitations of plum stones marked with different colours on the sides ; a group of these is thrown into a dish and shaken, and the numbers of each colour counted. This is the basis of hundreds of varieties of games, as cards are the basis in Europe. Gambling on the results is carried to excess, leaving the loser without a stick or a rag of property. Perhaps the prehistoric Egyptian was as reckless over his games. An article on the native surgery enables us to realize what the medicine-man has been, whose many properties have been found in Egypt. The methods of flint working are discussed ; bringing evidence that, for some kinds of flaking, heating and dropping cold water on the flint will remove flakes. An account of splitting a great boulder by lighting a fire upon it and then running water over it, accords closely with Mrs. Broadwood's account quoted in this number. As no particular direction of cleavage was required, no directing groove was cut in the American case, but heat and chilling split the mass "with a deep sullen boom." Such are some of the suggestive matters dealt with in these Reports.

THE PORTRAITS.

THE Alexandria Museum has recently obtained a fine bronze head of a Negro which is believed to have been found at the site of ancient Xois. Dr. Breccia, Director of the Museum, has published the head with two photographs in the *Bulletin of the Archaeological Society of Alexandria*, 1915. The bronze is in fair preservation, the surface a little corroded from the saltness of the soil. Its height is 6 2 inches, slightly larger than our illustration here. The features are strikingly similar to those of many of the Berberine boys employed to-day as servants in Cairo, and thus proves the long persistence of this type of physiognomy in North-East Africa.

Dr. Breccia does not think the head ever formed part of a statue; at all events the base of the neck is not finished off for being placed in such a position. It is a fine piece of realistic work, but whether dating from Greek or Roman times is uncertain. It has been placed in the Greco-Roman Gallery. It is not supposed to be of the old Egyptian era.

J. OFFORD.

The bust of a Negro which has been published in the *Bulletin of the Archaeological Society of Alexandria* (No. 15, Pl. II), has been sent to me for remarks. I know nothing of its history, but it seems obviously a piece of Italian work, and probably Roman, as Dr. Breccia does not regard it as Renaissance or modern. As a Roman version of a Negro type it is remarkable and interesting, showing the same generalised realisation of human types so characteristic of seventeenth-century art. So far as it bears any resemblance to existing Negro types, it recalls most to me the Negro of Bornu, a type of which I have seen a good deal in the north of Africa amongst the ex-slave population, as well as encountering them much farther south in Southern Nigeria. This type has a comparatively small and insignificant nose, very flat, but with rather thin and curved nostrils, marked prognathism, and full, everted lips. But it is also characterised by a great breadth across the cheekbones, and this seems to be lacking in the bust, which rather gives one the impression of having been modified by the artist from the appearance of his model, to render it more human and less outlandish. Much the same Negro type, however, is also occasionally met with in the North-eastern Sudan —in Kordofan, and thence across to the western confines of Abyssinia. The wool is rather long in growth for the average Bornu Negro, but looks as though in the model it may have been coated with clay, a practice very common at one time amongst the Negro peoples of Tropical Africa,—clay and mutton fat. As regards growth of head-hair, however, we are apt to get a misleading impression as to its natural shortness in the Negro variety of man. When allowed to grow unchecked, Negro head-hair may extend from six to twelve inches from its base—or even more in women. It is because the Negro, even in his most savage state, desires to keep his head-hair short, that we imagine he is naturally a short-haired man.

H. H. JOHNSTON.

HEAD OF A NEGRO.

BRONZE.

ALEXANDRIA MUSEUM.

HEAD OF A NEGRO.

BRONZE. ALEXANDRIA MUSEUM.

ANCIENT EGYPT.

SIR GASTON MASPERO.

1846–1916.

WE deplore the loss of one who has been, for a generation past, the most prominent figure in Egyptology. By his commanding position, his great stores of knowledge, his original powers of insight, and his ability to attract the public, he was the figurehead of Egyptology in France, and the authority most generally recognized in all other countries. His vast labours, all skilful and polished, united and gave animation to a wilderness of scattered facts; it was in the rendering of a picture of the past that he excelled, rather than in great discoveries or new prospects.

In such a life, one of the main points of interest to others must be its development and general scheme. Sir Gaston's working life is divided into five periods, alternately of literary and of administrative work. Originally of North Italian stock, he had the round head and short thick figure of the Alpine people. In thought and language he was not distinctively French; his writing is peculiar for its international style, so much so that it is difficult to avoid a word-for-word translation. Here is a chance sentence put into English, with only a single inversion:—"In the groups of huts of mud, scattered in the hollows of the ravines, sheltered the soldiers of police, the guardians and their families, the workmen who excavated the galleries of the tombs and those who decorated them, the lower clergy attached to the services of burials and of offices of commemoration, the dealers in offerings." Beyond the necessary positions of the adjective and the negative in French, there is scarcely anything which is distinctive of one language more than another in his style. This extreme simplicity and clarity was certainly one of the secrets of the popularity of his scholarly exposition of ideas.

The first Egyptian publication of Maspero, at the age of twenty-one, was in 1867,—a study of the dedicatory inscription of the temple of Abydos; in the next year followed a translation of a Hymn to the Nile. Then came a visit to South America, for some scientific work for a patron, whose ideas could not be furthered. After this the youthful Maspero received the first great step, in the editing and copying of Champollion's *Notices*. That work was begun in 1844, but had lingered unfinished for a quarter of a century. De Rougé entrusted the task to the rising scholar, and over a thousand pages stand transcribed in the clear, bold, unmistakable handwriting. Such a work was an education in itself, and, after that, he had a firm grasp of the general character of the monumental style. This work extended over six years, 1869 to 1875; and in that time—down to the age of twenty-nine—there came a long series of studies, two on the Gebel Barkal steles, on the forms of conjugation,

the judicial papyrus of the XXth dynasty, on the personal pronouns, on the chapter of the girdle-tie, an academic dissertation on Carchemish, on Egyptian letter-writing, and on papyri in the Louvre.

All this work was the foundation for the principal literary labour of his life. The *Histoire Ancienne des Peuples de l'Orient* appeared as a little octavo in 1875; other editions gradually swelled its bulk in 1878, 1884, and 1886. Then the quiet years of study in Paris led to an enormous expansion of the *Histoire* into the three great volumes published from 1894 to 1899.

To turn back; the second stage was the official appointment in Egypt, to the French Mission in 1880, and to succeed Mariette as head of the Department of Antiquities in 1881. The old Bulaq Museum was a desperately crowded storehouse, or collection of storehouses, with an overflow department all over the garden, where sun and watering played havoc with antiquities. Such was all the domain of Maspero in his first administration, 1881 to 1886. He made some classification, so far as possible in such close quarters, and produced a charming little guide book in 1883 to instruct the general visitor and help the student. His routine was to go up the Nile on a dahabiyeh for a tour of inspection during the cool months, visiting excavations, and settling what repairs were needed for the conservation of the monuments. The boat generally returned loaded with the minor antiquities which the Department had acquired during the year. The administration occupied practically all of Maspero's time, so that only small papers were produced by him during those years. By 1886 he determined on returning to France, owing to Madame Maspero's health and other reasons.

The third division of his life, from 1886 to 1899, was in Paris, occupied with literary work and study. First came, in 1887, a handbook of Egyptian archaeology. No such work existed then, and it has not been supplanted since as a handbook, though the progress of exact knowledge and dating has left it now far behind. A study of the historical results of the great discovery of royal mummies at Deir el-Bahri, followed in 1889, which was the first detailed account of the treasures which had been found eight years before. A voluminous catalogue of the Marseilles Museum represented also a considerable amount of work. A charming little school book on ancient life in Egypt and Assyria appeared in 1890, as *Lectures Historiques*. It makes an admirable first reader in French for English schools, owing to the simplicity of the style.

Perhaps the most important piece of research in Maspero's whole career was his editing and translating of the Pyramid Texts. Discovered in 1881, these all-important texts of the early religion differed so much from the later style that they needed wide insight and imagination to grasp their meaning, and several years passed before they appeared in sections in the *Recueil*. These translations were finally edited in one volume in 1894, when also began to appear the great final edition of the *Histoire Ancienne*, the completion of which occupied five years more. Meanwhile affairs in Egypt had undergone many changes. At the Museum, Grébaut and Loret had come and gone, and the brilliant administration of De Morgan had produced the Dahshur jewellery and other surprises. But De Morgan's talents in field work were wanted for the French Mission in Persia, and there was no French subject who could worthily take up the Museum except Maspero.

His fourth stage was the administration in Cairo from 1899 to 1914, at the ages of fifty-three to sixty-eight. Again his literary work almost ceased, as administration occupied his attention. Under the management of Grébaut, there

had taken place the very ill-advised removal of the Museum to the old palace of Gizeh, where it was in great danger from fire, and at an awkward distance from Cairo. Such a position was impossible permanently, and a new Museum was to be built within half-a-mile of where the old Bulaq Museum had stood. This was opened in 1902, and for the last fourteen years has been an unending cause of expense, trouble, and worry to the administration. Badly designed, and worse executed, it may be said to have been a serious drain on the efficiency and result of Maspero's second official life. He had the great task of bringing back from Gizeh the collections, now largely increased with big monuments. Then followed the difficulties of arrangement in bad lighting, and perpetual removal of parts of the collection to allow of alterations, not even concluded at the present day.

The main official work undertaken in the country was the clearance of Karnak, the repair and reconstruction of the monuments of which were entrusted to M. Legrain, and are still proceeding. The annual visitation of sites was largely occupied with the injury to the temples of Philae and Nubia, owing to the Aswan Dam, and Maspero published a volume in 1909 on the subject. Of original work during the second tenure at Cairo there are frequent papers but not many volumes. The catalogue of Persian and Ptolemaic sarcophagi was begun, historical discussions were written for the volumes describing the discoveries in the Kings' Tombs, and a general account of Egyptian Art appeared in a volume of *Ars Una*. Otherwise the volumes were collections of earlier papers, which all students are glad to have, in a series of *Études de Mythologie et Archéologie*, and unfortunately publishers reproduced other and slighter work, much of which had passed out of date, with titles which claimed a fresh place for it. The Museum at last acquired a proper journal in the *Annales du Service*, which Maspero founded on his return to Cairo, and edited till his retirement.

The last two years, from sixty-eight to seventy, were spent in the august dignity of Perpetual Secretary to the French Academy. One of the last tasks was writing the biography and eulogium of Perrot, the previous Secretary. The horrible strain of the great war—so far more imminent and dreadful to Paris than it is to London—and the crushing blow of the death of Jean Maspero as an officer, told on a constitution which already needed rest and ease.

The final scene has been described by Père Lagier thus:—"On the 30th June, 1916, at the close of a sitting of the Academy of Inscriptions and Belles-lettres, M. Maspero began to state the works presented. He stopped almost at once, and could only say 'Mes cher confrères, je vous prie de m'excuser . . . je ne me sens pas bien . . .,' and putting his hand to his forehead, he sank down in his seat, with his head thrown back. They gathered around him. All was useless, and a few moments later, before Madame Maspero hastened in weeping, the great Egyptologist passed away without having recovered consciousness." What end could be happier, or more befitting the dignity of a great scholar!

When one looks at the whole meaning of the different sides of Maspero's character, the leading feature of it seems to have been a strong Orientalism of thought. The logical clearness which belonged to his French blood and training was not allowed to rule the whole mind. A large region of sympathy, of fancy, of meandering thought, of synthetic imagination, was reserved free from bureaucratic invasion. Often the point of view of the ancient pagan was presented so firmly, so continuously, with such conviction, with so much reality, that it might be supposed to be the writer's own belief. He seemed to be able to think himself into different states; and this was the ground of his insight into the mazes of contradictory

faiths and long-lost phases of religions. Such was the starting point for rendering the Pyramid Texts with their echoes of primeval savagery, their slaughtering of the gods and cutting up the dead. Besides this freedom from the domination of logic, there was a strong Orientalism in the manner of writing. The style is rather more like Herodotos than systematized as a modern; in some cases, perhaps, more oriental than Herodotos. The reader has only to take his guide's hand and be led on patiently to one picture and another, to accept all that comes and enjoy it without continually looking at his watch. It is all interesting, all worth while, even though there is no index, hardly any contents, no list of pictures, and one never knows what will come next. Another Orientalism was the character of a benevolent autocrat. So long as anyone placed himself in Maspero's hands he was treated fairly and often with generosity; but once appeal to regulations, and the regulations had been repealed, or were inapplicable, and mysterious difficulties arose. Yet another oriental trait was the habit of attending to everything, large and small. It is a habit that soon grows on a capable man working with less capable subordinates; the petty details of administration were not firmly deputed, but were continually breaking in on more important work. In the midst of settling business of serious value, there would be incessant interruptions about trifles, to which Maspero turned aside for a few minutes, and then instantly twisted round and went on with previous affairs. It was astonishing, almost Caesarian, but it did not make the most of the years of life. When writing at discretion in Paris, Maspero usually stood to his desk as a substitute for exercise. The one chair in his study was piled high with books, and a visitor had to stand as well, or to settle, cross-legged, on the parquet floor.

A leading feeling with Maspero was his love of books, of bibliography, of wide spaces, noble margins, and good display. He revelled in quoting the full title of every book each time he referred to it. No matter how many dozen references there were to a volume, it always had its half line of full title, in the deep footnotes that often took up half the page. It would have been a sin against the dignity of literature to crop a name to the poverty of a few initials. The Cairo Catalogue conscientiously carries out this principle, and dozens of similar objects are each identically described over many pages. It is magnificent, but it is not archaeology, and such spaciousness restricts the Catalogue to the wealthy libraries. This essentially philological, philobiblical, conception of things was not compatible with an interest in scientific classification or registration, or a care for the physical nature of material. It belonged essentially to the scholastic rather than the physical type of mind. Maspero would always rather edit a text than discover it; the one he did brilliantly, in the other he took no part.

Those who worked under him ever had a warm feeling for the kindness and thoughtfulness of his control. Illness or difficulties were allowed for in a generous spirit, and he seemed to be the father of the Department. Those with whom he had to do business as excavators, know how he endeavoured to secure the rights of the Museum with the least annoyance to others. His choice of objects was always in the interest of knowledge, facilitating the preservation of groups, or allowing material to be studied and later returned to the Museum. The worst experiences were due to the absurd requirements put in force by government interferences, from time to time, without any official understanding of the subject. Egypt is a thicket of conflicting regulations and interests, legal and illegal. To reconcile them all is impossible, and, happily, not expected. Maspero, with oriental intuition, knew how much it was useful to see or to understand, how much could

be ignored, when to be legal, when to be illegal. He steered through complications which would have wrecked a less elastic management, and in most cases—though not all—carried the good will of others with him. He was, perhaps, the man who won because he made the fewest mistakes. Under the clearer conditions of a unified government, now established, we may hope that a Director will not need so much diplomacy in his department, and our best wishes are that the war may spare Maspero's successor to improve upon the administration of so great a head.

KING ZÊT OF THE XXIIIRD DYNASTY.

IN the first issue of this Journal, p. 32, Prof. Petrie propounded a new theory to account for the previously unexplained entry, "Zêt, 31 years," which is found at the end of the XXIIIrd dynasty in the Manethonian chronology, as given by Africanus. The solution suggested was that this statement goes back to a query made by Manetho, who was puzzled to know who ought to be described as king at this disturbed period, his note taking the form of some derivative of ζητέω, "I search after," for which a natural contraction would be ζητ. If I may be allowed, I should like to make an alternative suggestion, at the same time welcoming Prof. Petrie's view as being fundamentally right, and affording for the first time a sound basis for discussion.

It is, perhaps, not sufficiently brought out in the article referred to that it is known independently that ζητ was used to indicate a query, and that such notes were taken up into the text by careless scribes. "Sometimes we find at work a more intelligent critic who annotates the MS. with signs meant to point out corruptions, *e.g.*, q(uaere), r(equire), ζ(= ζήτει), and gives variants in the margin from other MSS." (Prof. Clarke, *Recent Developments in Textual Criticism*, Inaugural Lecture, 1914, p. 12). "The casual jottings of readers and correctors are often imported into the text. Among such may be noted, ζτ., *i.e.*, ζήτει (Aesch., *Choeph.*, 351, 530)" (F. W. Hall, *Companion to Classical Texts*, 1913, p. 194).

Fully accepting, then, the origin of the alleged King Zêt in the misunderstood contraction, there are three arguments which appear to preclude us from believing that the query was written by Manetho himself:—

(1) Such a note would be made by the author for his own guidance and it is very unlikely that it would be allowed to remain in the completed work.

(2) There is every probability that the mistake was made after Manetho had been epitomised. Not only would it be much easier, then, for the note to be taken into the text, but, when taken in, it could hardly appear otherwise than as an additional king. If, on the other hand, it was found in the original work, while a mistake would be possible, it would be difficult for it to take that particular form.

(3) If the supposed mistake were made in copying an epitome, it is quite natural that it should exist in Africanus and not in Eusebius. There is, of course, no question of each writer exercising an independent judgment on the text of Manetho, and coming to a different conclusion. The way in which the material is dealt with shows that both worked on the same list in slightly different recensions. It is much more likely that the copy used by Africanus was descended from the annotated copy, while that of Eusebius was not, than that Eusebius chose to suppress this particular king.

The alternative view which I venture to suggest is that the note was made in a copy of the epitome to call attention to a possible error in the total of the dynasty. The total in Eusebius is 44 years, while the sum of the reigns in Africanus (without reckoning Zêt) is 58. Now, if the corrector of the epitome found 58 in one copy and 44 in another, he would write 44 in the margin of the first copy. It is true that the number of years assigned to Zêt in the manuscripts, as we have them, is 31 (or, in one copy, 34); but, in view of the many changes, both accidental and deliberate, that the text has suffered, it is not difficult to understand that the disagreement may have been brought about by corruption in either Africanus or Eusebius, or possibly even in both.

F. W. READ.

FUNEREAL FIGURES IN EGYPT.

To reach the beginning of the use of funereal figures takes us far back into prehistoric customs. The multitude of little blue statuettes, which are the most abundant of all the remains of Egypt, are only the last stage of a long past. We must start with the existing beliefs of Africa, where the love and veneration of the family still remains in full force. When the father of the house dies, his widow and children cannot bear to lose all token of what he was in life to them. They have no cheap photographs, no oil portraits, so their love takes the course of keeping the head as long as possible. Such a head is their most cherished family treasure. It is required to watch over the prosperity and increase of the family. It is set up in the home, or in the family burial chapel, and there receives its offerings at the proper seasons. At meals, before the living begin, they pray the dead to accept of the food and drink. When any of the family marry, the newcomer must offer to the ancestor. In short the family remains one, whether in life or in death. The spirit of this union may well make us ignore the way of carrying it out, a way which we still imitate in keeping a lock of hair.

After all, modern man has not quite lost touch with his primitive instincts. The great convulsion of civilisation at present, has brought many things to the surface which no one thought of before. A short time ago we read of a soldier returned to England from a tornado of death, who always carried a parcel with him ; day and night, at meals or travelling, he guarded it jealously. That parcel contained the head of his dearest comrade, from which he could not bear to be parted. Has not this very same feeling inspired one of the great poems of our language, and been reflected thence in a great painting? Is not "Isabella, or the pot of basil," a witness that the old instinct lingered in Italy, and could be honoured by one of the most sensitive of English poets, and the most spiritual of English painters? Let us not then despise the African, whose feelings are so far nobler than his means, when he lovingly honours his parent's head.

For the benefit of the dead person it was, however, needed to restore the head to the body, in order that a future life should be enjoyed. This restoration of the head is prominently named in the early funeral ritual of the Pyramid Texts and the Book of the Dead. "Seb has given thee thy head." "Rise up Teta because thou hast received thy head." "Nut comes to thee . . . thou movest because she has given thee thy head." "Pepy Neferkara thou hast received thy head." From these references it is clear that in primitive times the Egyptians removed the head, and afterwards replaced it.

The evidence of the graves gives the material proof of these statements of the literature. The head was removed in many of the prehistoric burials, and later replaced in the grave, laid upon the body, or on a pile of stones. In many cases the head was lost, or buried elsewhere, and the body remained without a head, but placed in such a position, with offerings so placed on the neck, that it is certain that it was laid in the grave headless. As late as the IIIrd dynasty we know that the chief noble of the capital, at Meydum, was buried after removal and restoration of the head.

The next stage was the provision of a stone image of the head in the grave, in case the actual head was lost or injured. Such stone heads are found in tombs of

the IVth dynasty (see ANCIENT EGYPT, 1914, 125; 1916, 48). These heads were not supposed to receive offerings, but were always placed in the tomb shaft close to the chamber. They were thus distinct from the funereal figure in the tomb chapel in which the spirit of the dead received the benefit of the offerings. The head is to ensure that the future life of the mummy should not be destroyed owing to its lacking a head.

But though the head was thus to be restored to the body for its own benefit, the virtue of it for the descendants should not be lost. The African now makes a funeral image of the bust of the dead person, or a whole sitting figure. Thus in place of the head which was preserved in the family to receive offerings, a bust is provided for the same purpose, and the family offerings are piled before it in the chapel.

We see then how the Egyptian had provided for the perpetuity of both parts of the African ceremonial. The benefit of the head to the body was provided by placing a model of it in the tomb. The benefit of the head to the descendants was provided by the funereal statue in the place of offerings. The earliest of the private statues is the kneeling figure of the IInd dynasty at Cairo. In this, the deceased adores Thoth, and so perpetually "He gives an offering, the washer of the high priest of Tehuti, beloved by Tehuti, Dat." But this is hardly of the class of funereal figures, but rather a worshipper in a temple. The standing and seated figures placed in the tombs of the IIIrd dynasty are the true equivalent of the African figure placed in the chapel of offerings. They, however, do not lead onwards to the ushabti figures; they are always in the ordinary dress of living persons, and not swathed as the dead.

After the burial of the stone heads in the IVth dynasty we lose sight of provision for the perpetuity of the mummy. Probably the custom, not being noticeable, dropped out of use like all such hidden formalities. The great destruction of tombs and bodies at the break-up of the Old Kingdom is reflected in the literature, as Breasted has remarked; and the sight of broken tombs and wrecked mummies led to a revival of the custom of the stone head. But as it was not only the head, but the whole body, that was often missing, so a stone image of the mummy was prepared that it might serve indestructibly in place of the actual mummy.

These stone mummy figures appear at first as a plain bandaged mummy, without any hands or detail except the face, which gave it personality. The next stage was when hands were added, in order that the mummy could act. After that the mummy figure acquired arms, which are shown crossed on the breast.

The earlier figures are quite plain, but soon it began to be felt that some written definition should be placed upon them. In the end of the XIIth dynasty appears the declaration of an offering to Osiris that he may grant the deceased to come forth happily in the next world, and to behold the rising sun. On another figure the old tomb inscription is placed, praying Osiris to grant food and drink for the *ka* of the deceased. On another the source of the figure is stated, as being made by favour of the king. On other figures only the titles and name are placed. Thus there was no uniformity or fixed idea concerning these mummy figures; they were not a part of the older ritual, and their status varied rather according to the views of the family.

In the poverty and gloom of the Hyksos Age, tombs are rare and the furniture scanty. But as soon as the old civilisation stood on its feet again, the mummy figures are found, sadly degraded, almost beyond human form, yet with the old

formulae. In place of hard stone and fine work, they are roughly split pieces of wood with an attempt at a face marked on them. The simplest inscription is the bare name, asserting that the figure is such a person. These were placed in pottery or wooden coffins, so as to prove that they are really the mummy, and capable of acting as the person. A common formula is that they were made by a mother or a brother for the dead, "causing his name to live." This phrase has generally been supposed to refer to a descendant perpetuating the family; but here it must mean that the figure causes the name to live, that is, when the mummy is called on to act in the next world, the figure will do so instead and cause the name to live when called. The old formula of an offering to Osiris, that the dead may come forth to live in the next world, is continued from the XIIth dynasty. The names of the gods upon these figures throw light on the history of the people. Down to the XIIIth dynasty—when inscriptions almost end—the gods are usually named singly, or if several together, the plural number is used. Now in the XVIIth dynasty, the

USHABTIS OF XIITH DYNASTY, AND XVIITH.
LID OF MODEL COFFIN.

names are largely compounded as Ptah-Seker, Ptah-Osiris, and Ptah-Seker-Osiris. This marks the fusion of the separate tribes who worshipped different gods, and it shows that the great drive of the Hyksos migration had forced the tribes into union much closer than before.

Not only were inscriptions continued from earlier custom, but new forms were brought in as a personal choice, apart from any continuity. One figure bears an order "O Tetames! wander to seek Tetanefer (a brother who had died before), go around if sand is being brought for thee," that is, help to provide for the other brother. Another has, after the usual formula, an order "Tetames wander to seek and he (the other brother) will be found." Another reads: "Pamedu wander to seek Tetames, that he may call by name to the *ka* of Tetanefer. If you are told to carry sand of west to east say 'I go.'" Here a family servant is ordered to look out for his master's ghost, and tell it to call on the help of the previous brother who

was an established inhabitant of the next world. These messages to the dead show us the belief in the free action of the dead, and their life like that they had on earth.

Here, then, mere scraps of rough wood were supposed to personate the dead, to be able to seek one another, and give information, and evidently to carry on business as if alive. Strangely a first-hand description of this belief has come down to us from Roman times, which agrees so exactly with the magic value of the early figures, that it is clearly descended from that. Lucian, in his dialogue on lying, gives a story by Eucrates as follows:—

"While I resided in Egypt, whither I was sent very young by my father, for the purposes of study, I conceived a desire to go up the Nile to Koptos for the sake of hearing Memnon, who at sunrise utters such surprising tones. I did hear him; not as the generality do, yielding a bare sound without meaning, but I heard a real oracle out of Memnon's own mouth in seven verses. On our return, there happened to be in the same ship with me a man of Memphis, of the sacred order, with a shaven crown, dressed entirely in linen, always absorbed in meditation, speaking very pure Greek, a tall man, lean, with a hanging underlip, and somewhat spindle-shanked. When I saw him, as often as we went on shore, among other surprising feats, ride upon crocodiles, and swim about among these and other river animals, and perceived what respect they had for him by wagging their tails, I concluded that the man was holy, and sought to ingratiate myself with him that he might communicate to me his secrets. At length he persuaded me to leave my slaves at Memphis, and to follow him alone, telling me that we should not lack for servants. When we came to an inn, he would take the wooden bar of the door, or a broom, or the pestle of a mortar, put clothes on it, and speaking over it a magical formula, make it walk, and be taken by everybody for a man. This servant went to draw water for us, did the cooking, arranged the furniture, and showed itself in every respect an intelligent and active servant. Then when Pancrates no longer needed it, by a second enchantment it became a broom if it had been a broom, or a pestle if it had been a pestle. One day, hiding myself in a dark corner, I heard, unknown to him, the magic formula. It was a word of three syllables.

"Next day, when my Egyptian was occupied in the market, I took the pestle, I dressed it, and pronounced the three magic syllables, and ordered it to go and fetch water. It brought me an amphora full. 'Enough,' I said, 'do not bring more water, become again a pestle.' But it would not obey me, it continued bringing water, and filled the house. I knew not what to do. I feared Pancrates would be angry on his return, as he was when he did come. I seized an axe, and split the pestle in two. Immediately each piece of wood took an amphora, and went to fill it with water, so that in place of one servant I had two. At this point Pancrates returned, guessed at once what had happened, and turned again to wood my two water carriers, as they had been before the enchantment."

Here, exactly as with the ushabtis, a shapeless piece of wood can by enchantment have all the activity of the person intended; and even if split in two, as roughly as many of these figures are split, yet it is just as effectual. It may even be that the magic word of three syllables was the title of *shauabti*, possibly meaning appointed for satisfaction, or some such sense.

It is on these rough wooden figures of the XVIIth dynasty that the word *shauabti* first appears, as "This shauabti (is) Aohmes Săpaar," or "O Shabti of Sen-hetep, made by his brother making his name to live, Aoh-hetep." In only two

instances have we the older royal offering formula overlapping the use of the word shabti. An amplifying was thought needful, so a longer form of repetition is "Shuabti this, Aohmes, if one summons thee to all work in the underworld 'I am doing' say thou, as a servant; if summoned to fill water channels or to carry sand east for west 'I am doing' say thou." The name is variable in form, either *shuabti*, *shabti*, or *ushabti*.

The next idea is the numbering of the workers, as a fixed corvée of Osiris. "Shabti this, Tetames, if is numbered Tetames to do all works that are to be done in the underworld, to make grow the fields, to fill the channels, to produce . . . . to

USHABTIS OF THE FIRST HALF OF THE XVIIIth DYNASTY.

SEN-EM-AOH, REIGN OF TEHUTMES I.	NEHI, REIGN OF TEHUTMES III.	MANUNA, CHIEF ARCHER OF ZARU.	RA-EM-HEB, PROPHET OF AMEN.

transport sand of the east to the west, 'Behold me' say thou." This is the first extension of the formula to field cultivation. Here the ushabti is the very man, identical with him for all his duties. This is extended by the phrase that all the work is to be done "as a man at his business," or that which is under him, or in his control.

At this point two changes come in. The deceased has the name of Osiris given him, showing his identity with the god. After this deification of the man, it is evident that the identity of the ushabti with the man has to be dropped out of

sight; it is the first step in reducing the ushabti to be a slave figure. The second change was putting the word *sehez* always before the formula. It seems most likely that this is an instruction to the deceased to "make clear" to the ushabti what his work is. For all these changes see pp. 160, 161.

After this a new order of things begins, the ushabti is furnished with tools to work, and a ribbed wig like a living person; the phrase not only of numbering the workers, but of reckoning them comes into use. Soon after is a new order directing the ushabti to smite all evils for the man; this implies that the ushabti was not only to work in place of the man, but that it was to be a bodyguard to the man, thus entirely parting it from the old idea of being a substitute for the body if destroyed.

These many fresh additions show that the formula was growing in the XVIIIth dynasty, and was continually fluctuating in the phrases and their order. Among the variations, on one is the order to work: "Be strong with the hoe in the pools"; another refers to being summoned daily; another declares the ushabti to be one of the field serfs; another, that it is "of the court of servants." One ushabti is told "listen thou to him who made thee, do not listen to his enemies." The future official bliss of the dead is declared, after naming the labours of the ushabti, as "The Osiris Bakenamen is harboured in peace at Amenti as chief of a city."

Toward the close of the XVIIIth dynasty the ushabti was looked on more and more as a mere slave, apart from the mummy or the man. Then there was no reason to be restricted to one, and half-a-dozen or more were made. The need of compelling work is always before the Egyptian mind, so taskmasters appear armed with a whip, and become a regular class in each group. In the XIXth dynasty, and down to the XXVth, the inscriptions continually become shorter and more corrupt, until they disappear. Then the figure dwindles, and what had been a large stone figure is reduced to a tiny dab of mud.

The revival of Egypt, which we commonly look on as due to the XXVIth dynasty, must really be put to the credit of the Ethiopians of the XXVth dynasty. It was then that fine work reappeared, that the ushabti system was revived. It is the figures of Queen Amenardas and her vizier Horua that show an entirely new style, about a generation before the XXVIth dynasty began. These were cut in brown serpentine, and well inscribed at full length. Private ushabtis also appear in a fresh style at this time. The custom of having overseers disappeared. The figure is always bearded, and a back pillar became a constant feature. Part of this revival was the establishment of a standard inscription, which is given most completely on the beautifully engraved serpentine ushabtis of Peduamenapt, who had the largest private tomb in the country, at Thebes. This sums up every phrase that had obtained currency, into a complete formula: "Make clear, Osiris, chief reciter, Peduamenapt. He says, O shabti thou, if one calls, if one numbers, if one reckons, the Osiris, chief reciter, Peduamenapt to do all works that are to be done there in Kherneter, then thou shalt smite evils there, as a man at his business; 'Behold him,' say thou if one numbers at any time, for action there, to cause to grow the fields, to cause to fill the channels, to transport the sands of the west eastward and *vice versâ*, 'Behold me' say thou if one seeks the Osiris, chief reciter, Peduamenapt, 'I am doing it, behold me,' say thou." After this there was no variation except by shortening and corrupting the text. For royal ushabtis fairly good work and inscription are found for over three centuries down to the close of the Kingdom. For private persons they deteriorated until in the XXXth dynasty the inscription is reduced to merely a name, or often not that, and the work is of the roughest, down to mere slips of pottery with scarcely a human shape.

There were thus three periods of these substitutes for the mummy, (1) the XIIth dynasty when fine work and brief inscriptions were used, which degraded to the roughly split bits of wood in the XVIIth; (2) the XVIIIth dynasty with its great variety and long inscriptions, which degraded to the little lumps of mud in the

USHABTIS UNDER AMENHETEP II.
MIN-MES. HATHER-HAT. SADIOMIA.

USHABTIS OF THE XXIST DYNASTY.
HENT-TAUI. PANEZEM. NESIKHENSU.

XXVth; (3) the XXVIth dynasty figures with pilaster and beard, well inscribed, which degraded to the barely human form in pottery. There is no evidence that any ushabti or any regular scarab was made after the Greek conquest.

We have passed over the Aten episode in the XVIIIth dynasty, which changed the ushabti for a time, as it changed everything else in the religious life of Egypt. The title ushabti was dropped, the claim for work vanishes, the labours of agriculture in the underworld disappear. All that was beautiful was retained, in this form :—A royal offering given to the living Aten who makes bright the earth with his beauties; may he give sweet wind of the north, a long duration of life in the excellent Amenti, cool water, wine, milk, gifts of all young flowers, for the *ka* of the deceased.

The material nature of the ushabtis has been partly noted in the account of their changes, but it may be stated here consecutively. The earliest figures in the XIIth dynasty are of fine hard white limestone, beautifully made, but without any sign of hands. Rather later they were of brown serpentine, or of wood, and hands or arms are shown. At the end of this first age only wood was used and that very coarsely sawn or split, with a rough attempt at features, sometimes merely a head hardly distinguishable from the feet. The inscriptions are always written with ink.

The revival in the XVIIIth dynasty began with large, boldly cut, figures in limestone, and wood continued to be used, as the largest and finest figure—that of Nehi—is of wood very finely engraved. Other stones came into use, mainly black limestone, black steatite, and alabaster, which are often beautifully engraved in the middle of the dynasty. Under Amenhetep III and IV granite was used for royal figures. Pottery began to be used about the middle of the dynasty; at first engraved and coated with stucco and colour, then cheaply moulded, inscription and all, then merely painted. This lent a fatal facility to degradation, and in the XIXth dynasty the roughest pottery figures with a mere pretence of a name, or none at all, served as ushabtis. The wooden figures also became continually rougher, but they were always cut, not merely split, and had some semblance of hieroglyphs on them. The great growth of coloured glazes at the close of the XVIIIth dynasty led to using them for ushabtis. At first most beautifully inlaid with varied colours, or glazed on engraved stone, they soon became uniformly green or blue, with written inscriptions, as those of Sety I. Here the way was open to the most complete degradation. In the XXIst dynasty—even for royal figures—the work is of the roughest, and the inscriptions very carelessly written, only redeemed by the richness of the blue glaze. After that smaller and smaller sizes were made; the colour became a dull green; the inscription dwindled to a mere name, or was entirely omitted; the glaze was replaced by green paint, the siliceous body by common pottery; then mere yellow marl was used, and lastly black mud; the final stage was in the XXVth dynasty, when the black mud lost the faintest pretence of blue or whitewash on it, and remained a black and formless dump, smaller than the little finger. Some other experiments were tried in the course of this decay, such as black mud figures, varnished, and with yellow inscriptions (XXIst dynasty); pottery figures, with white or yellow wash, and neatly inscribed; rough wooden figures painted green to imitate glaze; and impressed pottery figures, the overseer with an inscription in relief, and the worker with the same stamped in.

The third age began in the XXVth dynasty with engraved serpentine figures of fine work. Well glazed figures also appear with vertical columns of inscription. Very soon a fixed type was established, with beard and back pilaster, covered with green glaze or, rarely, blue. This was fairly maintained for royal figures, but ordinary ones continually degraded, with coarser work and shorter inscriptions. By the XXXth dynasty few were inscribed, and those only very illegibly with the name. The glaze had become blackish green, the modelling very coarse. With

these were also very rough pottery figures with a dash of colour on them. Such is the last stage of the mummy figure, which—so far—has not been found of Ptolemaic times.

USHABTIS OF EARLY IN XXVITH DYNASTY.
HERUZA, PRINCE OF THE FAYUM.

USHABTIS OF XXXTH DYNASTY.
GREEN GLAZE AND ROUGH POTTERY.

Regarding the numbers buried, they were single figures of the mummy till the middle of the XVIIIth dynasty, and rarely more till the end of the dynasty.

1. Shuabti this Aohmes
2. „ „ Tetares
3. O „ „
4. Osiris Tetamesu „ „
5. Make clear Nehi says he „ „
6. „ „ „ Userhot „ „ „ „
7. „ „ Any „ „ „ „
8. „ „ „ Peduamenapt „ „ „ „

Make clear Osiris N says he O Shuabti this, N, if one calls,

1. to do all works of Kherneter
2. „ „ „ that are to be done in „
3. in „ „ „ „ „ „ „
4. to do „ „ „ „ „ „ „
5. in „ „ „ „ „ „ there „ „
6. „ „ „ „ „ „ „ „
7. „ „ „ „ „ „ „
8. „ „ „ „ „ „ „ „ „

to do all works that are to be done there in Kherneter,

8. Behold him say thou, if one numbers, at any time to act there

Behold him say thou, if one numbers, at any time to act there

1. or sand east for west
2. to transport the sand of the east to the west
3. „ „ „ „
4. „ „ west east
5. „ „ east west
6. „ „
7. „ „ „ „
8. „ „ west east and *vice versâ*

to transport the sands of the east to the west and *vice versâ*

1. if one summons thee
2. Tetares
3. Qedhetep
4. Tetamesu
5. Nehi
6. if one reckons
7. Any in
8. Osiris Peduamenapt

if one numbers, if one reckons, if one summons thee N

3. as a man at his affairs
5. „ „ „
6. „ „ „
7. „ „ „
8. „ „ „

7. then shalt thou smite for him evils
8. „ „ „ „ „ there

then shalt thou smite for him evils there, as a man at his affairs.

1. to cause to be full the channels
2. to cause to grow the fields, to cause to be full the channels
3. „ „ „ „ „ „
4. „ „ „ „ „ „
5. „ „ „ „ „ „
6. „ „ „ „ „ „
7. „ „ „ „ „ „
8. „ „ „ „ „ „

to cause to grow the fields, to cause to be full the channels.

1. I am doing, reply thou as a servant if summoned
2. Behold me say thou
3. „ „ „ „ „ „
4. „ „ „ „ „ „
5. „ „ „ „ „ „
7. if numbered at any time Me „ „ „ in
8. „ „ „ „

if numbered at any time I am doing Me Behold me say thou

When they came to be regarded as servants, rather than as copies of the mummy, half-a-dozen or a dozen were buried, as in the XIXth dynasty. The royal ushabtis of the XXIst dynasty were by the hundred. Private ushabtis of the XXIInd dynasty were about 50, in the XXVth 400. In the XXVIth numbers from 11 to 400 have been noted. Details of styles and errors show that the large numbers were made in factories by many workmen jointly, and that the inscriptions were read aloud to the engravers.

The subject of ushabtis is not only a prominent branch of Egyptian manufactures, it is a long chapter in the history of religious ideas and their growth, it is a great example of the law of resuscitation and decay. Each period starts with nobly good work, very soon the finest style is reached, and then almost imperceptibly each generation, each year, seems to have been content with something almost as good but rather cheaper, until the degradation was complete. That is the history of all human work in Art, and we can trace it in every period and every land whereof we know enough. It shows that excellence and invention are individual, that it is the single great impulse that lifts a people, and, after that, imitation is the only resource of later generations.

Although the variations of the ushabti texts are so incessant that it is difficult to find two alike, as they vary even in the same group, yet a clearer view of the whole subject can be obtained by taking the earliest typical example of each new clause, and showing these as a connected historical chain of growth. For this purpose in the preceding tabular view of these changes (reading across the two pages) four of the rude wooden figures of the XVIIth or beginning of the XVIIIth dynasty are quoted, numbered 1 to 4; then Nehi, Userhat, and Any (5–7) of about the time of Tahutmes III; after which decay sets in until the revival of which Peduamenapt gives the most complete text, marked 8. The fine figures of Heruza are almost identical with this, except in placing plural forms for singular after the word "affairs"; and this type continued to be used till the end, in shortened and corrupted forms.

W. M. F. Petrie.

EGYPTOLOGY IN FRANCE.

In the volume of the *Monumenti Antichi* for 1915, p. 117, etc., Signors Paribeni and Romanelli give a Greek inscription from Aspendos, a city upon the bank of the river Eurymedon in Pamphylia, which is important for the history of the Lagides. It is a decree of Aspendos concerning Ptolemy Philadelphus, and proves the fact asserted by Theocritus in his 17th Idyll, that Ptolemy II for a time held possession of Pamphylia. It would appear that Egypt lost her hold of the territory shortly after 272 B.C., when Theocritus composed his poem, because the famous Adulis inscription and Polybius both assign a conquest of Pamphylia to Ptolemy III Euergetes. Perhaps Philadelphus only occupied part of the province, and its conquest was completed by Euergetes, for Aspendos is situated but a short distance up the course of the Eurymedon, and so may have been in the power of Ptolemy II, because he had command of the sea, and his hold upon the country was still not uncontested further inland. Unfortunately, the new-found inscription does not afford material for fixing the year when it was engraved, or that referred to in the text.

In their record of gratitude to Ptolemy, the authors mention a personage then connected with their town, named Leonidas. A soldier of that name is known as taking part in the Cilician war of 309 B.C., but it is not probable that this is the same personage. M. Bouche Leclercq in his *Histoire des Lagides*, I, p. 194, refers to a suggestion of Gescke, that after Antigonus' naval victory, about 265 B.C. at Cape Leucolla, the portion of the coast of Asia Minor held then by Egypt was lost to her, and this, he says, would explain why the monument of Adulis does not allege that Philadelphus left Cilicia and Pamphylia to his successor Euergetes. There can, however, no longer be any doubt as to Theocritus having been justified in assigning possession of Pamphylia to the Pharaoh in his poetic panegyric of Philadelphus. Now that Prof. Strack, who so carefully collected all inscriptions concerning the Ptolemies, is no longer able to do so, it is well to note them in ANCIENT EGYPT.

In the *Bulletin de Correspondance Hellenique*, M. E. Cavaignac has recently printed an important article entitled "Le Chronologie Egyptienne au IIIme Siècle avant J.C.," in which he indicates the correct method of arranging a concordance between the native Egyptian and the Macedonian calendars. His system is almost entirely founded upon statements in Ptolemaic papyri, chiefly those in British publications such as "Hibeh Papyri" and the "Revenue Laws." But he also quotes various unpublished papyri, some of them communicated by M. Jouquet, and therefore probably these form part of the collection at Lille which is perhaps destroyed. M. Cavaignac also quotes some Tebtunis texts not yet edited. He provides a table showing the correspondence between the two series of months from 253 B.C. to 214 B.C., embracing the reigns of Ptolemies Philadelphus, Euergetes, and Philopator. His essay will be very useful to all engaged in ascertaining the dates of Ptolemaic papyri from the wording of their contents.

In Vol. XII of the *Bulletin de l'Institut Français de Caire*, M. H. Gauthier gives a description of a number of ancient Egyptian antiquities in the Institute's possession. Among those deserving of mention is a seated statue of Teta Khart (or Teta Sheri), whom M. Gauthier shows was the mother of Ahmosis I, founder of the XVIIIth dynasty. This statue bears nine lines of text, and this inscription completes the missing part of the words upon a duplicate statue of this lady in the British Museum, see *Guide to the Egyptian Collection*, 1909, No. 187. Another interesting monument at Cairo is a stele recording offerings to Prince Merimes, as "royal son of Kush, or governor of Ethiopia, for his father Amenhotep III." For this proves divine worship as being paid to a personage who had never been a Pharaoh. Where the tablet was found is unknown, and so it is possible it was erected to the south of Egypt, wherein the royal son of Kush would be equivalent as ruler to a king, and so be a becoming person to receive worship as a god. One Old Kingdom text given by M. Gauthier upon p. 126 is curious because of the numerous animal hieroglyphs employed by the scribe. They exceed ten per cent. of the whole. It also preserves a very early specimen of the pre-Christian ✠.

The second part of Vol. XI of the *Bulletin de l'Institut Français d'Archéologie Orientale*, published under the direction of M. Pierre Lacau, contains a lengthy discussion by M. Gustave Jéquier of the origin and meaning of the signs ☥ and ♌, including a list of many of the words in which the ☥ is used as a hieroglyph, as the application of it for this purpose illustrates the question. The two symbols, M. Jéquier points out, are very similar, and in many cases one seems to take the place of the other, but with the exception that deities never hold the ♌ instead of the ☥. His conclusion is that both signs do not represent any familiar object of civilised usage, but are true symbols made in the image of two primitive talismans, some kind of knots formed by means of the stems of aquatic plants. Both are emblematic of life, with the difference, that the ☥ concerns the life divine, and the ♌ an eternal life for mankind, also perhaps for things, but has no connection with that of the gods.

M. Pierre Montet describes the Egyptian hunting nets chiefly used for waterfowl, and by figures shows how ingeniously they were designed and worked to effect their object. Whilst wide open to embrace a considerable area they, by a sudden pull, were quickly closed to form a trap. A great deal appears to have depended, according to scenes in the tombs, upon the stealth and silence of a boy, or man, concealed in the reeds, who signalled the proper moment for closing up the net. For an example of this see *The Rock Cut Tombs of Meir*, Vol. II, p. 13.

A long article by the late M. Jean Maspero edits a Byzantine papyrus relating to Horapollo, who was the author of a work upon Hieroglyphics still partially extant. It concerns the misconduct of Horapollo's wife who had gone away with a lover, and the manuscript incidentally throws some light upon Roman law. It also proves that of two authors who bore the name of Horapollo it was the latter one who wrote the *Hieroglyphica*.

M. Henri Gauthier endeavours to adjust the reigns and chronology of the various Pharaohs named Shishak, or Chéchanq; M. Daressy had treated of this question in the *Recueil*, Vol. XXXV, and concluded there were five kings of this name. M. Gauthier reduces these to four, Chéchanq I; Chéchanq II si-Bastit; Chéshanq III reigning between the former and Pamai; and Chéchanq IV, later than Pamai.

M. Georges Daressy describes the Sièges des Prêtres, and gives an inscription of ten vertical lines concerning this piece of furniture appropriated to a first prophet of the statue of a Pharaoh named Imhotep. He had to be duly installed upon the seat and henceforth used it to sit with his brother clerics and wise men who had similar resting places, and converse with them, or occupy it at all temple functions unless he was personally employed at the service.

By far the most important essay in Vol. XII, Part I, of the *Bulletin* is that of M. Daressy upon an Egyptian Zodiac which has lain for a long time in the Cairo "Institut." It not only contains the Zodiacal signs, but also in a smaller circle beneath them the forms of symbols of twelve deities whom the Egyptians associated with these particular signs. M. Daressy publishes a photograph of this Zodiac and also of the planisphere of Dendera, for his article is not restricted to the study of the Egyptian Zodiacal signs only. As its title of *L'Égypte Céleste* indicates, it concerns the imaginary Egypt of the heavens, which was a duplicate of the terrestrial one. The priests endeavoured to utilise the constellations in the solar path as duplicates for all the Nomes of Egypt. The deity of each Nome had to be found in the sky, in the order in which they would be passed through if the Sun-god were descending the Nile. The Zodiacal signs being insufficient to take the place of some forty Nomes, the planets and some constellations were pressed into the service. M. Daressy rather, in his researches, works back from the celestial Egypt to utilising it for improving our knowledge of the geography of its earthly counterpart in the earliest times, in respect of the special deities and their famous Nome shrines (see further notice p. 185). The subject requires taking up now from another direction, that is the correspondence between the stellar symbols of gods upon the many Babylonian Boundary Stones that have been published by Scheil, Ranke, and others, and those of the Egyptians and Greeks. They are identical in several cases and this line of research is likely to prove very fruitful.

In an article entitled "Greco-Arabica," M. Jean Maspero proves that a supposed personage named Melitus, according to Mr. Evett's translation of the life of Andronikos in the *History of the Patriarchs of Alexandria*, is an error of the Arabic translator, or copyist, the original word having been *milites* "(troops)." M. Maspero points out that the statement in the "Life," that Andronikos remained safe in some monastery at Canopus when Chosroes captured Alexandria, confirms the account of the chroniclers who told us that the city was taken from its western side. He indicates another error in the English version of this history of the Patriarchs, where it tells of a Syrian monastery of Ammonius near Antioch. The name should read Aftunias, the famous Monophysite monastery called Beit Aftonia.

M. Henri Gauthier describes what is known as to the career of Ziharpo, a functionary of Nectanebo I whose name was read by Brugsch as Horpta. His sarcophagus is at Cairo, and was catalogued by Maspero in his *Sarcophages des Époques Persane et Ptolémaïque*. It was disinterred by Mr. Quibell in 1911 at Sakkara. Brugsch, in his account of this coffin, stated it was then in Vienna, but M. Gauthier proves this to be an error, Brugsch having confused it with another, that of Nes-shu-tefnut, which was transported to Austria, but Ziharpo's was left in its tomb until again unearthed by Mr. Quibell. Numerous funerary statuettes of Ziharpo are in the Vienna, Miramar, and Marseilles Museums, and have in older times been published with his name erroneously rendered as Wauupan, and Harpnoub. His mother's name was Tefnut.

M. Henri Gauthier also gives photographs and an account of a number of monuments preserved in the French Archaeological Institute at Cairo, giving

whatever texts are engraved upon them; most of these are duplicates of similar inscriptions in various museums. M. Georges Daressy adduces ample reasons for assigning the sarcophagus found by Mr. Theodore Davis in the tomb of Queen Tiyi to that lady. Although the inscriptions have been altered to suit a male Pharaoh, evidences that they were originally written for a feminine occupant are conclusive, and he concludes that the changes in the writings were to render them appropriate for Amenophis IV. He does not however think the male mummy found in the coffin was that of this king, but that it is most probably that of Tut-onkh-Amen.

A series of "Notes sur le Dieu Montou" happily induces M. Georges Legrain to give a summary of several of the hundreds of statues discovered by him at Karnak. The remarks also lead up to a most interesting enumeration of the chief shrines and districts whereat Montou was most revered, more especially of the now almost vanished temple of the deity at Koum Madou (Medamoud), a site at which Daninos Pasha has recently carried out some excavations. All copies of texts at this temple made in the eighteenth and nineteenth centuries are collated and compared with these, and others, now known. The most important fact elicited is that of the worship of a Montou bull at Madou similar to that of Apis, Mnevis, and others elsewhere. M. Legrain does not mention whether this place is listed in the catalogue of Serapeums in the Louvre Papyrus No. 3079, and in Brugsch's *Geographical Dictionary* (see Pierret, *Études Égyptologiques*, I, p. 36, and Brugsch, *Dict. Geo.*, p. 1063). In the volume upon the *Rock Cut Tombs of Meir*, by Mr. A. M. Blackman, he shows that texts and scenes at Meir suggest the keeping of a cow harīm for the sacred bulls, and quotes texts indicating similar arrangements for the bull deities elsewhere. Most of the inscriptions on the Karnak statues of hierophants of Madou are of the XXXth dynasty or later. One text mentions the Amentit of the bull who is in Madou, so doubtless a catacomb similar to the Serapeum at Sakkara is concealed there and awaits discovery. A further portion of M. Legrain's treatise concerns Montou as god of Tuphium (Toud), where there also was a sacred bull representative of Montou, and shows that the full title of the temple was the Bulls' Chateau. At Toud there is also a decorated chapel, the shrine of the goddess Tanent, who in some cases is represented as a triple-headed hippopotamus.

Egyptological essays are still frequently appearing in the *Comptes Rendus* of l'Académie des Inscriptions, and two of these, by M. Moret, Director of the Musée Guimet, are of importance. One of them endeavours, and successfully so, to restore the missing part of a IVth dynasty inscription published by M. Henri Gauthier. This text did not reveal the name of the personage concerned, but M. Moret shows him to have been a certain Daou, who was born at Abydos and lived under Pepi I, Meri-ra, and Pepi II. This he does by means of fragmentary texts referring to him, and by other inscriptions using similar formulae. Daou's career is pieced together, and he is shown at various times to have been Court Page, a District Administrator, Superintendent of the Treasury and of the town at the royal Pyramid, Chancellor of the North, Judge in the Gate, Director of the Archives, Commander of the Body Guards, and an hereditary prince.

M. Moret's second essay is explanatory of an inscription published by M. Daressy some years ago, from a stone that has since so decayed that the text has perished. M. Moret renders it because its terms are closely connected with matters he discussed in his *Donations et Fondations en Droit Egyptien*. It is a sort of autobiography of a man named Beb, describing the wise use he made of funds

or property given to him by his father, during that parent's lifetime, probably at the date when Beb came of age, also of goods and property bequeathed to him at his father's decease. Although Beb was an official holding some position as governor of a royal house, and a minor post at court, he was evidently in business on his own account as builder and proprietor of a mercantile dahabeah, and holder (or owner) of real estate, and a farmer. It is to be hoped that these works of M. Moret will be republished in some collection of his essays, so as to be more accessible to students.

In the *Journal Asiatique* for 1914, Commandant R. Weill continues his exhaustive researches into the origin and correct succession places of the Pharaohs, who reigned in Upper Egypt, or sometimes over the united country, from the time of the XIIth dynasty to the Theban restoration. Every record he can discover of these monarchs, from those supplied by great temple or sepulchral inscriptions to those upon scarabs and amulets, is commented upon and utilised. To scholars who can recollect the days of Bunsen, Birch, and the elder Vicomte de Rougé, when the Turin Papyrus, Manetho's List, and the tablets of the kings at Karnak and Sakkara were almost the only available records of the reigns to conjure with, the advance in knowledge we now possess is indeed immense. In the article now referred to, which is Chapter III of M. Weill's work, and runs to forty pages, he treats of what he terms the historic group of the Antefs, the Sebekemsafs, and the Sebekhoteps of Thebes. He makes good use of the sarcophagi inscribed with royal and princely names at the Tombs of the Kings and elsewhere, also of the coffins and sepulchres of royalty enumerated in the Abbott Papyrus concerning robberies of tombs. He shows from the monument of Antef V at Koptos (see Petrie, *Koptos*, Plate VIII) that, at the era of the Antefs, not only was Egypt divided into at least two kingdoms, but the Antefs were but petty princes of Upper Egypt, the Nome of Abydos being probably their territorial limit northward. Southward their sway may have extended above the Cataracts, but Thebes was their only city of size and importance. These rulers of this restricted area were by later compilers of the royal Egyptian annals considered as being the true lineal Pharaonic representatives, but they had to accept the contemporary existence of another line of kings, and to treat these rivals as genuine kings, and as legitimately exercising the prerogatives of royalty over a large part of Egypt. It is curious that the loss of the sceptre over united Egypt by the XIIth dynasty resulted in the Theban Principate becoming endowed as the nucleus for the successors of the ancient legitimate Pharaohs. Thus in time this family became recognised as the progenitors of the New Monarchy when the foreign dynasty in Lower Egypt departed. M. Weill devotes a special chapter to Queen Sebekemsaf, wife of Nubkipiri Antef, because Queen Ahhotep, spouse of the Pharaoh Ahmes, at a much later epoch, claimed descent from her.

Figures upon Prehistoric Egyptian and Dipylon early Hellenic Pottery.

The Metropolitan Museum of Art of New York City having acquired two magnificent specimens of the so-called Dipylon style of colossal Greek vases, they have been published by Miss Gisela M. Richter in the *American Journal of Archaeology*. Upon these, as on previously known specimens of this peculiarly decorated ware, are numerous figures of so-called mourners. Some of these are evidently females, and are apparently shown as nude, with both arms elevated above the head. This singular attitude is precisely that of the female figures upon

the very early vases found in Egypt, specimens of which are given in M. Capart's *Primitive Art in Egypt*, p. 121, etc. Herr Kroker, in the *Jahrbuch Arch.* of 1886, had suggested Egyptian influence for these curious Dipylon figures. This, following Prof. Paulson, Miss Richter does not agree with. But the vases now at New York display many of the figures very distinctly, and since Herr Kroker's essay several more specimens of the Egyptian type have been published, and the similarity of the two series of figures is now very striking indeed. The very early gems from Mykenae representing deities, depict these clothed in the flounced skirt, or Babylonian kanaukes, evidently copied from Asiatic cylinders. The long rows of aquatic birds on prehistoric Egyptian pottery appear again on vases from Susa and from the Greek Islands. Moreover, the Dipylon four-wheeled chariots also seem to be imitations of those on Mesopotamian cylinders, so that the female figures with upraised arms, in the attitude of "hands up," perhaps a sign of sorrow and hopelessness, may really be copied from Egyptian pottery brought by traders to Greece in very early times.

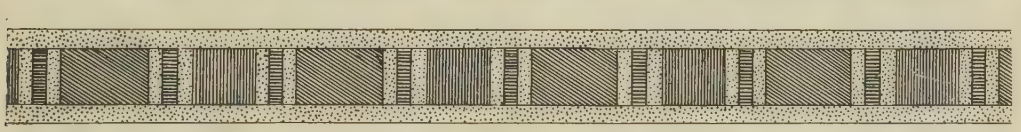
JOSEPH OFFORD.

THE ORIGIN OF POLYCHROME BORDERS: A SUGGESTION.

THE polychrome border was a decoration in general use in Egyptian tombs, dating from the XIIth to the XXth dynasty and even later. Two forms of this border are very common in the Theban necropolis. The first form is used solely to frame the scenes on a tomb wall, and the second is reserved as a decoration in the painted and sculptured representations of kiosks, and small wooden shelters or shrines.

The order of the coloured rectangles is always constant in the first form of border, namely, red, blue, yellow, green, etc., with a thin continuous line of green bordering the rectangles on both sides. The colours in the second form of border vary in their arrangement in different tombs, and the continuous band at the edges is yellow instead of green. The coloured squares are separated by a white band between two black ones, or in the XVIIIth dynasty, a black between two whites, a form which prevailed later. It has been suggested that these borders represent reeds or some similar material, bound together at intervals; but no satisfactory explanation has yet been given as to what the apparent binding really is, or how it was used.

FIRST FORM OF BORDER.

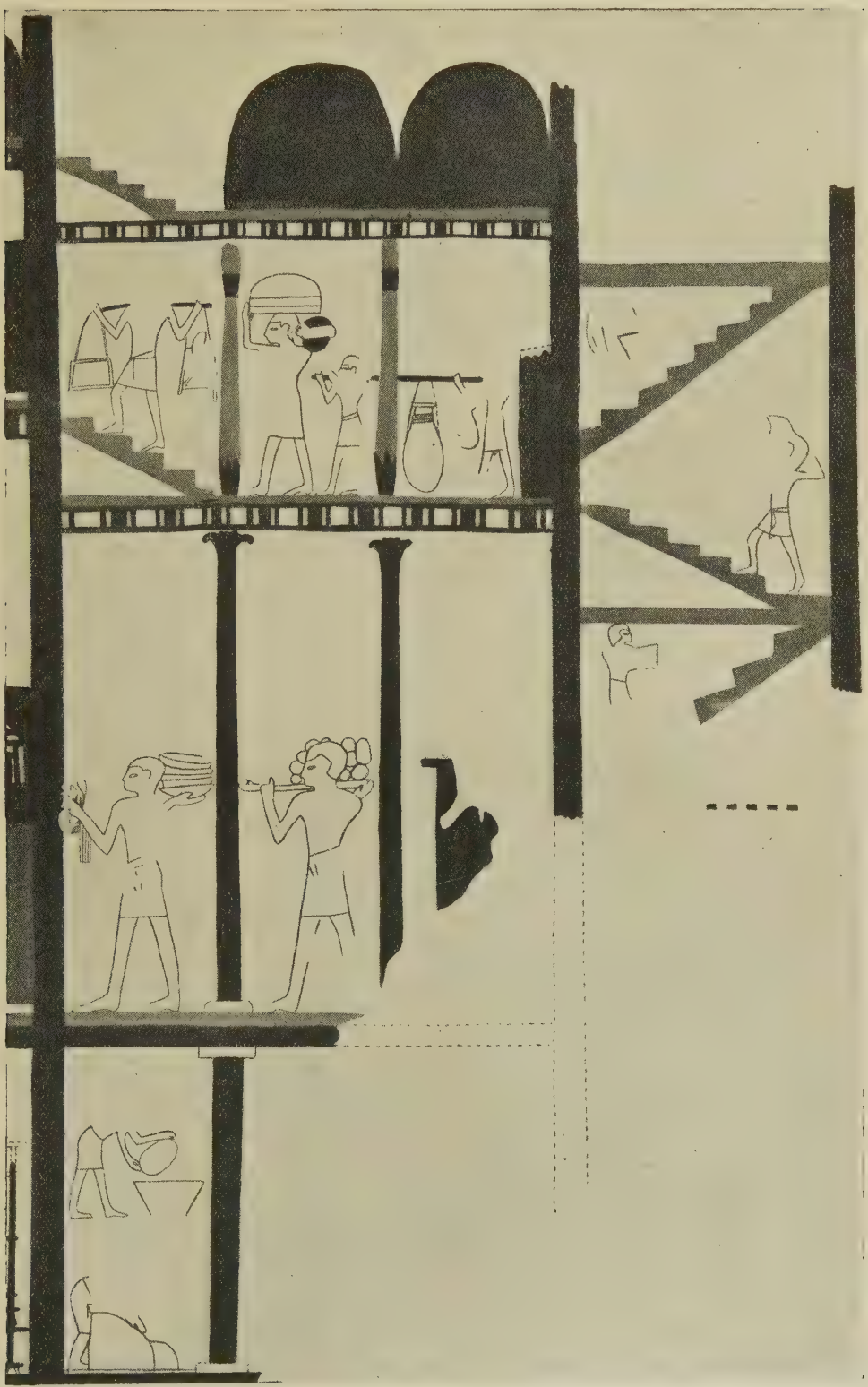


SECOND FORM OF BORDER.

A glance at the illustration of the ancient Egyptian house on the following pages shows that the coloured border was probably intended to represent a section of the flooring of a house. The rectangular patches of colour seem to represent light beams; and the yellow border line above and below them, either wood planking or, more likely, matting or slats, to form the floor and ceiling respectively.

The following method of constructing a light floor is employed at the present day in Egypt. Palm trunks (when easily procurable), or beams of wood, are used to carry the main weight of the floor, and at right angles, above and below, palm branches are lashed close together. The latter are then covered over with mats and finally with mud to form a solid floor and ceiling. Such a floor is only constructed while the house is in process of being built; that is, it is entirely finished before the walls of the room above are proceeded with. The ends of the palm branches are, in consequence, held firmly between the walls of the upper and lower stories of the house, and at first project slightly from them. They are eventually cut off flush with the outside of the wall, which is plastered over with mud when the house is completed.

House of Tehuti-nefer Huia.
Granaries at Top.
Private Rooms.
Public Reception Room.
Work Rooms at Base.



HOUSE OF TEHUTI-NEFER HUIA—*continued.*

CARRYING UP OF FOOD TO UPPER FLOORS. PREPARING LEATHER, BELOW.

CARRYING UP GRAIN TO GRANARIES ON THE ROOF.

In the building of the floor of an ancient Egyptian house the mode of procedure was doubtless the same, but in lieu of palm branches the papyrus reed was probably used. Owing to the triangular shape of the reeds in section it would be perfectly possible to make the equivalent of light beams of a square or rectangular form by lashing them together in a compact bunch; this was certainly done for columns, as imitated at Tell Amarna. The ends of the beams, and the covering of reeds or matting above and below them, would doubtless first project irregularly from the walls, as they do in uncompleted Arab houses, and they would also be cut flush with the walls, as at the present day.

The colouring of the rectangles in the separate borders illustrated, and in that which represents the flooring of the ancient house, is difficult to explain. The only solution that the writer can offer is that, in lieu of plastering over the ends of the beams and matting which were cut off flush with the outside of the walls of a house, the ancient Egyptians coloured them instead to serve as a decoration.

It will be noticed in the illustration that the flooring between the lower rooms and the rooms above is of a different nature from that just described. It is coloured red, and what apparently represents matting above it is yellow. A heavy floor (doubtless constructed entirely of wood) would be necessary in this case to support the weighty columns above, which are also coloured red, probably to represent wood. The pillars supporting the roof of the house are coloured green; and, as the weight they supported was comparatively light, they were probably made entirely of papyrus stalks lashed together.

The scenes depicted in this illustration of an ancient Egyptian house are also of much interest. It will be noticed that the lower rooms of the house are used as workshops, etc. There is a scene of a woman spinning yarn, the thread, issuing from a basket set on the floor, being passed through a ring hung from a support projecting from a column, in order to get a long length free for spinning. Two women behind the spinner are engaged with a ball or balls of yarn lying on the floor. It is not clear what the two men in the upper part of the scene are doing, as the detail here is in very bad condition.

In the next room on the right three weavers are at work sitting on low stools, with their backs to the observer. One of the looms, being exceptionally large, requires two men to work it. In the adjoining room a woman is grinding corn, and above her is a figure about to put some substance (possibly dough) into a pan. In the rooms above the owner of the house is seated in state, with a serving-girl offering him drink. Behind the girl is a man about to present a bouquet of flowers; with the inscription "Uab priest of Amen, Dhutnufer called Huia." The door behind this man is interesting, as it shows a grating for ventilation in the upper part of its framework. About to enter this door are two servants carrying flesh and bread respectively.

The upper scenes show either a guest or the owner of the tomb being fanned, and behind the fanner is a servant bearing a jug of wine. The open door in this scene should be noted, as it is apparently shown in perspective. To the right are various servants climbing stairs and bringing the necessary articles for the feast above.

The row of seven semi-circular structures on the roof of the house represent corn-bins, which are placed here out of the way of rats and other pilferers. Five of these bins are fitted with double doors.

Pictures of important Egyptian houses are exceedingly rare in the Theban necropolis, and it is to be regretted that the one reproduced here is not more

complete. The tomb in which this painting is to be seen is numbered 104 in the list of Theban tombs, and belonged to a Royal Scribe of the name of Dhutnufer. It unfortunately cannot be exactly dated, but has been conjecturally ascribed to the period of Amenophis II or Tuthmosis IV. The picture of the house is on the eastern wall of the outer chamber of the tomb; it has been badly scaled, first by a fire that occurred in the tomb, and subsequently by weathering due to the collapse of the roof.

ERNEST MACKAY.

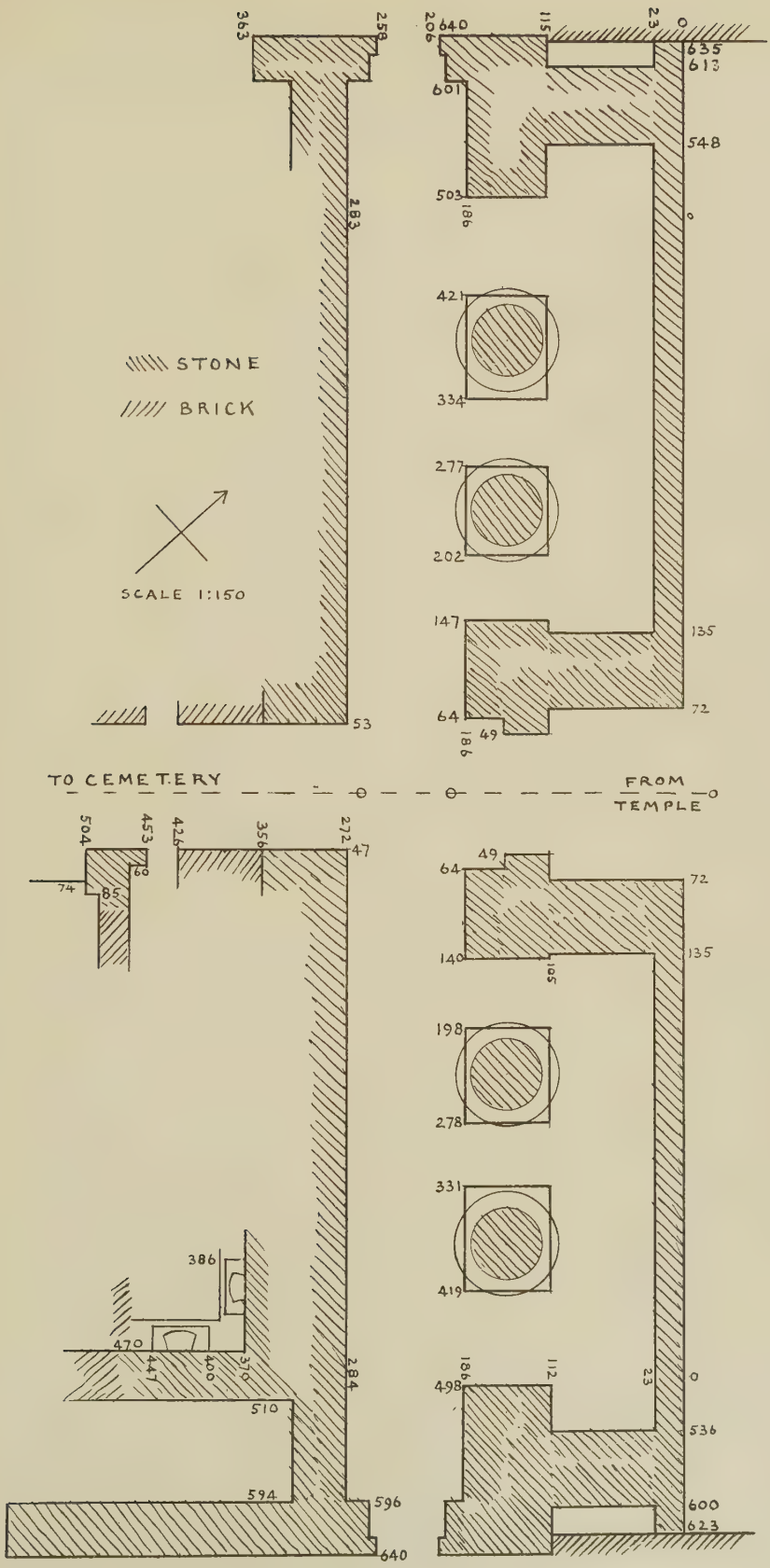
A CEMETERY PORTAL.

THE Egyptian cemeteries were not as undefined as they now appear to be. The surface boundaries would naturally weather away and disappear, but in some cases they can still be traced. At Dendereh, for instance, there is a ridge of gravel still to be seen for about half-a-mile along the desert side of the cemetery. At Abydos there was a great pylon of red granite leading west out of the temple enclosure; beyond this there was a gateway in the outer town wall of the XIIth dynasty. Through these gateways a road led out to the cemetery, and after emerging from the town wall it entered a Portal building, as the approach to the cemetery. Probably there was originally a boundary wall around the tombs, and this Portal was the official entrance for burials.

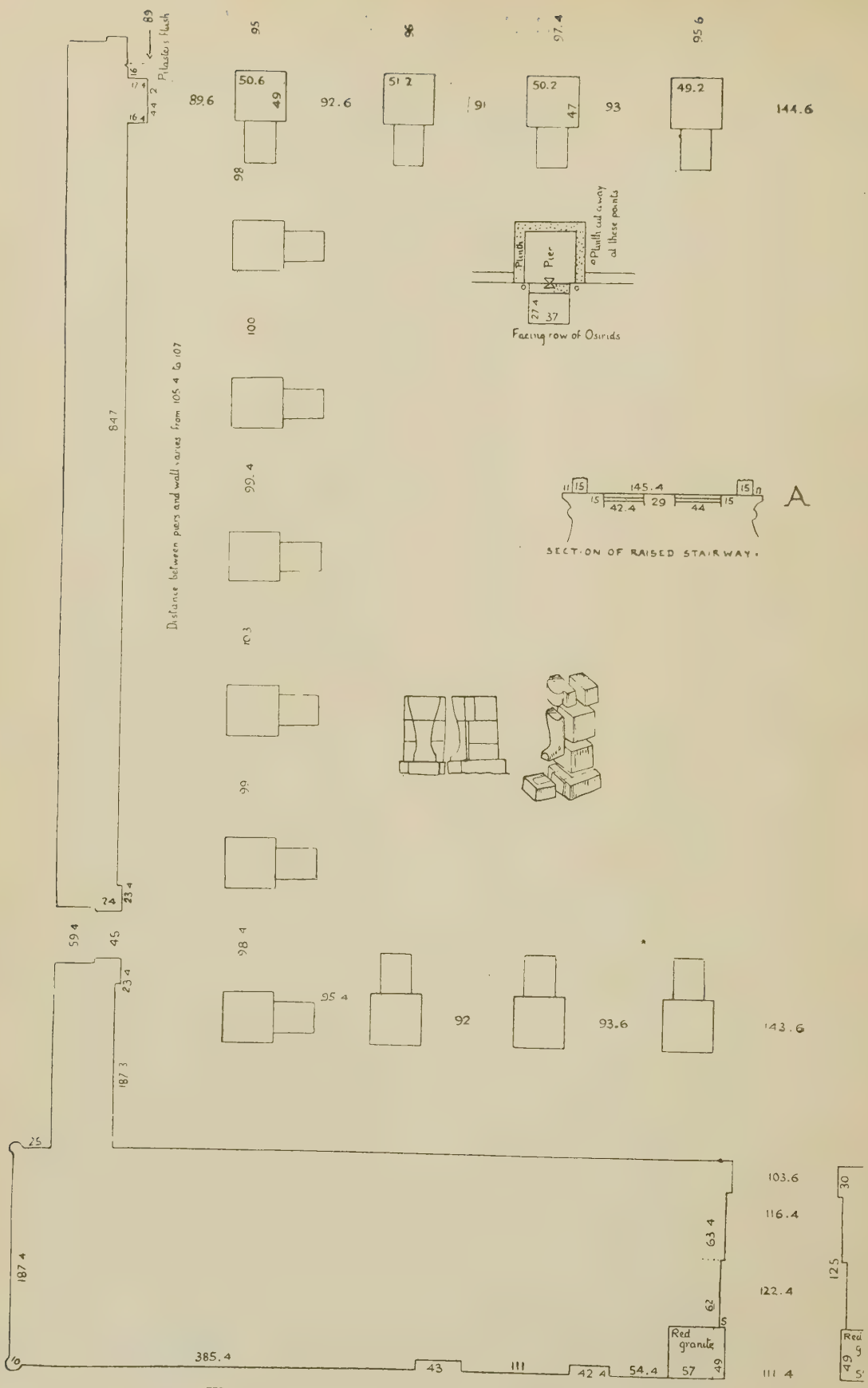
Some clearance was made at this Portal in 1902, and the late Mr. Hugh Stannus took the plan here published. His measurements have been added together, so as to state all positions as distances westward from the east face, or north and south from the axis of the front. Thus, all the similar parts can be at once compared in position. It seems strange that the inner passage should not be co-axial with the east gateway, but about 3 inches to the north of that. Yet the total lengths are given to the north and south ends, and it is impossible to assume an equal dislocation at each end, hence the shift must be in the passage axis. The columns were measured by the circumferences, giving a diameter of N. 57·8, 2nd 57·5, 3rd 60·3 inches. The base circumference shows a diameter of 87·2; hence the bases extended beyond the square foundation blocks. The pavement probably fitted in beneath them; that, being doubtless of limestone, has all been stripped for burning.

The dimensions are irregular, varying two or three inches, as in the temple of Rameses II, who also built this Portal. The intention seems to have been to build in terms of the ordinary cubit. The width of the entrance is 7 cubits, the wall at either side 3 cubits, the long hall on either side 20 cubits long, 4 wide. From the best parts the cubit averages 20·8 inches, a usual value in late times.

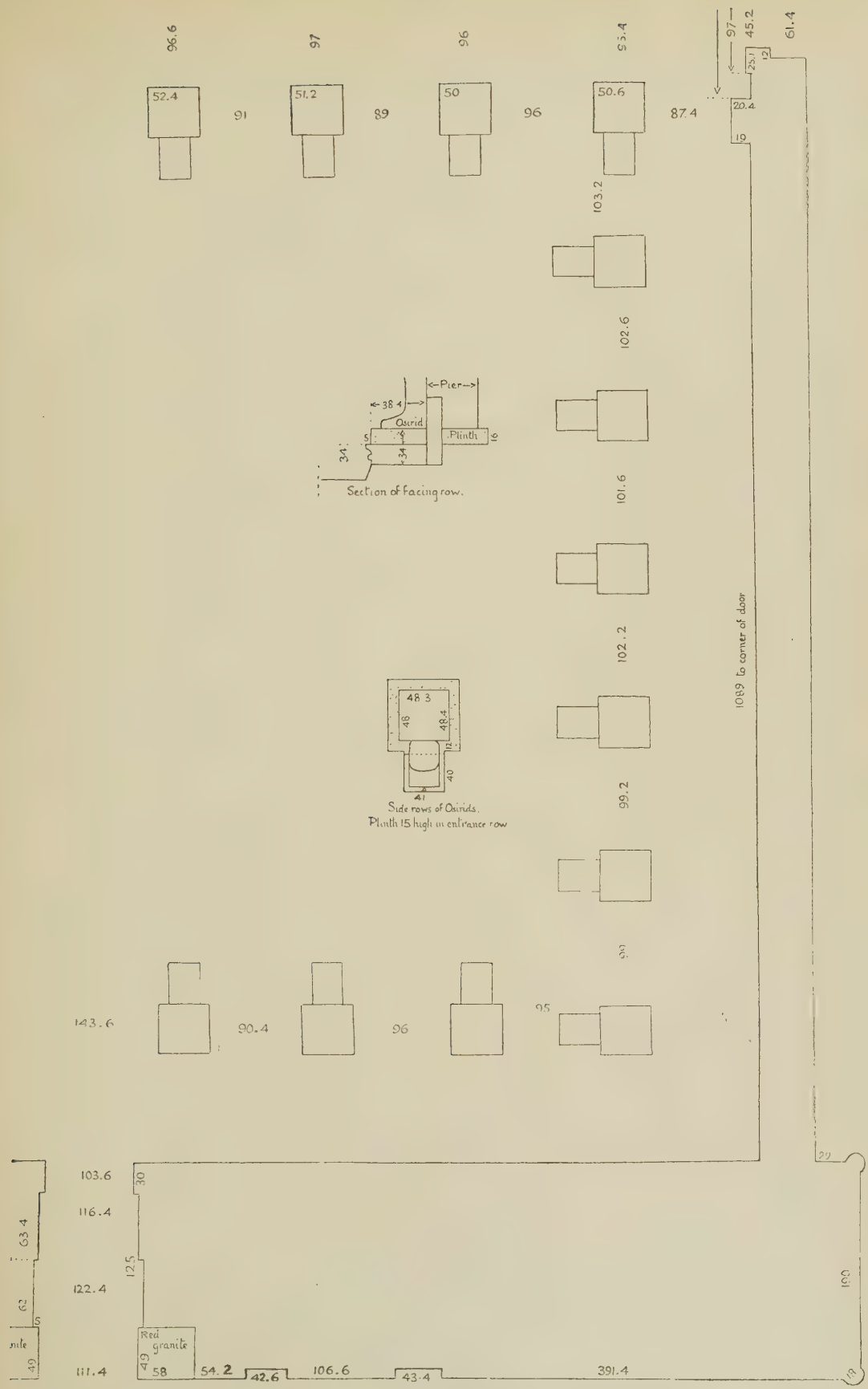
The western side has not been cleared enough to show the position of the foundations and ruins. After it had been partly pulled down some brick walls were patched on to it, apparently cutting into a court of Osiride pilasters. The still complete eastern part differs entirely in plan from the front of any known temple, and its ceremonial purpose must have been different from any temple ritual. From the end doorways and the covered space provided along the passage way, it looks as if planned for the gathering or dispersion of funeral processions. If, on the approach of a funeral, the cemetery staff of priests and officials flocked in at the end doors, they could then arrange themselves in the porticos at the side of the passages so as to file out in complete order for parts of the funeral procession along the axial passage. Probably the western part contained a hall, or halls, for the funeral ceremonies before proceeding to the actual tomb. The building would thus have been a near parallel to the modern chapel at the entrance of a cemetery in our own country. It would be desirable, for our knowledge of the funeral ceremonial, to completely clear this building and restore the plan of it. Unfortunately, I only began upon it during my final months at Abydos in 1903, and had not time to complete the work. The various excavators in the years since then have not attempted to clear fresh monuments or trace the history of buildings.



PLAN OF THE CEMETERY PORTAL, ABYDOS.

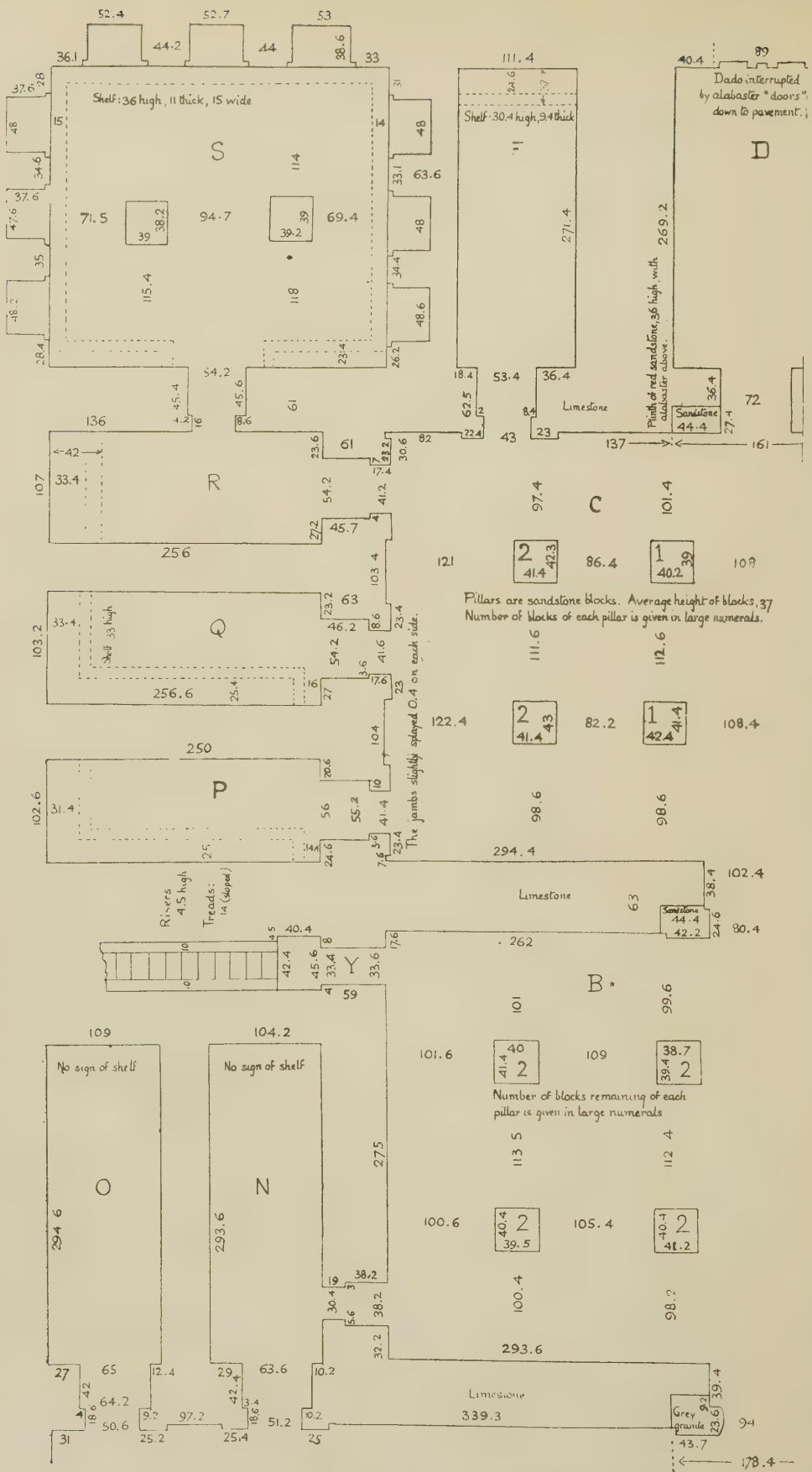


West Half of Court, Temple of Rameses II, Abydos.

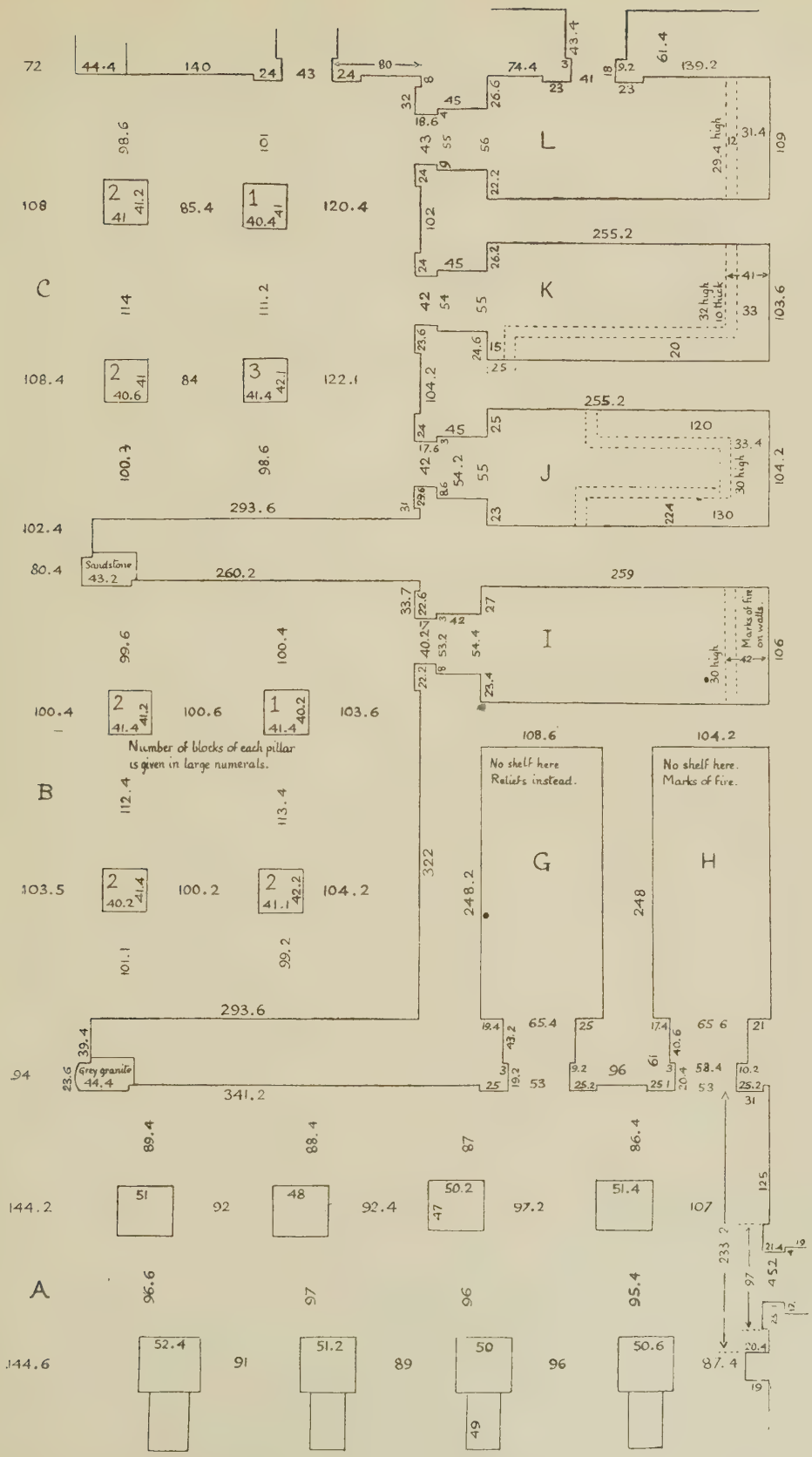


NORTH HALF OF COURT, TEMPLE OF RAMESES II, ABYDOS.

M



South Side of Chambers, Temple of Rameses II, Abydos.



East Side of Chambers, Temple of Rameses II, Abydos.

M 2

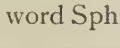
As the plan of the temple of Rameses II at Abydos was published in our last number (pp. 136, 137), especially in relation to the views issued there, so now it seems desirable to preserve the record of the actual measurements made by Mr. Stannus, by issuing sectional plans with all the details. Miss Murray has made the drawings of these here given. First is the outer court, the two halves of which have the gateway repeated to show their connection, pp. 176–7. The details of the Osiride pillars are shown separately in the court; as also the section of the double stairway rising up to higher level of the back. On the succeeding pages, 178–9, are the details of the chambers. These two halves do not match across the pages; more of the back is shown in 178, but the back on 179 was not measured by Mr. Stannus, so the colonnade in front of the chambers is included at the bottom of the page. All of these plans, and that of the Portal, are to the scale of 1 to 150.

W. M. F. Petrie.

REVIEWS.

Notes on the Story of Sinuhe.—ALAN H. GARDINER, D.Litt. 8vo. 193 pp. (Paris: Champion, 1916.)

This is essentially a specialist's book; intended not for Egyptologists in general, but for those whose interest lies in the language only. As such it is, like all Dr. Gardiner's work, absolutely indispensable to the serious student. The mass of information and solid learning which it contains makes it one of the most helpful books of recent years. Dr. Gardiner has relied, in a way that is unfortunately rare among scholars, on his own common sense to help him in difficult and obscure passages, and his vast knowledge of the language and literature enables him, as a rule, to prove his point. To take two cases out of many: in ll. 71–73 the words have hitherto been divided *nn ḫ³-f*, and translated as a question. Dr. Gardiner shows that the form *ḫ³* is impossible here grammatically, as after the negative *nn* the geminated form of the verb is always used, *ḫ³³*; the division of the words must then be *n nḫ³-f*, the verb being *nḫ³*, "To meditate, to think about." This is the grammatical argument. As regards the translation of the passage, Dr. Gardiner points out that "to interpret a negative sentence as a rhetorical question because the negative does not seem to fit is a dangerous expedient, and one which must always excite suspicion." Here common sense comes into play; the meaning of the whole of Sanehat's speech is taken into consideration, and the effect which he must have wished to convey to Amu's son Neshy, whom he desired both to impress and to propitiate, is clearly discussed. Consequently Dr. Gardiner is able to translate the whole passage in a manner which carries conviction to the mind. But, perhaps, one of the best examples of grammatical translation, coupled with downright common sense, is the discussion of the meaning of . To anyone who has worked through the text and tried to form a mental picture of what happened to Sinuhe after his interview with the Pharaoh, Dr. Gardiner's discussion of this passage is most interesting and illuminating. In fact, all Dr. Gardiner's discussions are worth reading, and the book is one which should be in the hands of every real student of the language.

In only one instance has Dr. Gardiner failed to show his usual acumen, and that is as regards the brilliant (Dr. Gardiner calls it "ingenious") suggestion of Mr. Gunn that the origin of the Greek word Sphinx is the Egyptian  , "Living image." On Dr. Gardiner's own showing, the word *sšp* is determined with a sphinx when it means an image; and though in Pharaonic times it is qualified by the epithet *ʿnḫ* when applied to the king, it is more than probable that such an expression would, by degrees, become limited to the statue of the king as a lion. There is nothing unusual in this; every language can supply instances of such a change. In our own tongue the word *sovereign* means, properly, a ruler or king, yet in common parlance the word has come to mean a special coin on which a

portrait of the monarch is stamped. It must also be remembered that the Egyptians called an artist , "He who makes alive," therefore it is quite possible that the "living image" may be simply a term for a portrait. We have all heard of a "speaking likeness."

M. A. M.

La Pierre de Palerme et la Chronologie de l'Ancien Empire.—G. DARESSY (*Bull. Inst. Fran. arch. Orient.*). 54 pp.

This is an important study of the new fragments of the Annals, of which an account appeared in our last number. M. Daressy has very carefully examined the stones under the best conditions, and his conclusions must have full weight. On surfaces so greatly worn, where only the faintest traces of the essential signs appear, it is certain that many examinations will be needful, and many pairs of eyes should be used. By having kept back the stones for six years from the world of students, until the war broke out, the Department in Cairo hinders the study of this essential material for several years more. The hopes expressed that several copies of the Annals existed in several places are by no means certain. In so large a monument many different engravers may have been employed, and variations in thickness and lines might occur; the source of any pieces outside of Minieh is by no means sure, as only one has been found at Memphis, and that only picked out of a basket of fragments of unknown origin.

The first important reading is that of the king Athet, where traces of three strokes in the *ka* name were seen by Maspero, and are visible in the photograph, agreeing well with King Zer. M. Daressy agrees that Zer is the certain reading of the king's name, and not Khent as mistakenly read. But strangely he does not see the sign Zer in the three strokes visible, but would read it Kho-sekhem. It seems very improbable that this king could come in the midst of the compact series of the Royal Tombs, or that his style of work could belong early in the Ist dynasty; on the contrary, by the name, he is evidently near Kho-sekhemui, and of the dynasty of Hetep-sekhemui, the *sekhemui*, or two powers of Horus and Set, being prominent in the IInd dynasty. There seems no ground for transposing a king who so obviously belongs to a later group.

A suggestion is made that the sign of the king seated with full insignia is equivalent to the *nesut bati* and *nebti* names. But as it is agreed that they all appear together under the reign of Nefer-ar-ka-ra, the conjecture hardly seems worth proposing.

An interesting new view is given of the *Her-nub* title. Snefru has one falcon, Khufu two, Dadefra three, over the *nub*. The *nub* it is proposed to read in the derived sense of "to cast, model, or fashion," and connected with resurrection or renovation, as in the *nub* hall of the temple. Hence the *Her-nub* is translated the "renewal of a god." Why *re*-newal should be implied is not clear. On the proposed value of *nub* it might mean "made a god," or "made Horus," that is, the king as Horus incarnate. The meaning of the single, double, and triple falcons is not suggested. On p. 204 is a most suggestive arrangement of the IVth dynasty, showing the less important kings as brothers of the great kings, Radadef being brother of Khufu. Beside him we know of Khnum-khuf as certainly a third. What if the two falcons of Khufu refer to a joint reign of Khufu and Khnum-khuf, and the three falcons of Dadefra to a triple co-regency of Khufu, Khnum-khuf, and Dadefra all together? This is at least an hypothesis to be tried.

The name of the mother of Athet is recognised as Hapt, with the title of priestess, *khend*, before it. Many minor readings follow which should be utilised.

On reaching the reign which is identified in our last number with Semerkhet, M. Daressy sees traces of the name of King Qa, and of the name Qebh. This assumes that Qebh was the real name of this king, whereas the contemporary remains read Sen, and Qebh is only a late mis-reading of the true name. This identification, therefore, cannot be accepted. The traces which are supposed to be the *h* of Qebh are really the long stick held by the man in the name of Semerkhet.

Two of the pieces of the Cairo Annals are stated to really join, a matter which, of course, we must accept, as it has been verified in handling the pieces. The habit of assuming that documents are in error now leads to saying that on the Palermo Annals there is a mistake in putting two years of cattle census consecutive instead of biennially. It seems much more likely that we do not know if a census was irregularly deferred or repeated because of errors. To boldly state that an error has been made in the Annals, when we know nothing of the circumstances, is far too self-sufficient. We must all thank M. Daressy for a very careful fresh reading of the stone, to which others will doubtless add many more examinations when peace permits.

We now reach what is the key to all the rest of this Paper, on which is based a reconstruction of the entire chronology. This rests upon an estimate of the length of the slab or slabs by means of the continuance of the reigns of the Vth dynasty from one register to as far along in the next register; and an estimate of the height by the fact of a hinge socket at one edge implying a threshold, which is presumed to be of a double door.

To take first the question of the total length of the slabs. The occurrence of years of Sahura in superposed registers, the middle of the 4th coming over the end of the 14th year, indicates $9\frac{1}{2}$ years of Sahura in the length. The end of the 10th year of Neferkara coming just beneath the beginning of his 1st year, indicates 10 years of his reign in the length. These 10 years M. Daressy extends, for some unstated reasons, to 12 spaces, and adds a border of half a space each side and so arrives at 13 spaces for the whole. The evidence of the stone does not seem to prove more than $9\frac{1}{2}$ or 10 spaces. The length of the spaces was not equal. In the very brief entries of the first three dynasties, each line has a different size of space. In the reign of Sneferu, of which we have only three spaces, they vary in size as 3 to 4. Only two complete spaces can be traced in the Vth dynasty, and those differ, showing that they were not laid out by measure, but depended in each year on the amount of inscription of the year. This is also indicated, if we grant any value to the numbers in Manetho (which are correct for Sahura), by the space of 10 years above named containing also 20 years of Userkaf, and 26 years of Shepseshaf and Userkaf. The measurable length of a year of Userkaf 7·8 inches, or Sahura 8·2 inches, can by no means be safely applied to all the missing parts. It indicates about 82 inches for the length, *if* all the years of those kings were alike, and *if* the rest of Userkaf's years and those of Shepseshaf were only half as fully recorded. The length of 107 inches, adopted by M. Daressy, cannot be taken as more than one of many possibilities, and any reconstruction based on that is equally uncertain.

Secondly, there is the question of height. The edge of a pivot hole is described as being at the top end of the piece. It is assumed that this was for one half of a double door, it is also assumed that it was for the stationary half, and as no bolt hole

is seen in the slab, therefore the length of the slab does not reach the middle. From this position it would result that the doorway had a clear opening of 30·9 inches, and that the stone with a guessed amount for border would be 2 cubits, 41·2 inches high. But it does not seem at all known that it was for a double door, for under three feet wide a single door is more likely; nor is it known at all where the axis came beyond the end of the slab, if the door were double; nor is it at all known whether the height of the slab went across the doorway; it may have been at right angles to that. There does not seem then to be any real definition of the size in either direction by the proposals brought forward. Hence the whole question of reconstruction, which is dealt with in 25 pages, remains in air, so far as any proof goes. One point only is clearly to be remembered, that the Annals were engraved on a row of slabs, and not on a single slab; for the thickness of 2 or 2½ inches precludes a greater length than about 40 inches at the outside. A longer slab of that thickness would be too easily broken by its own weight in moving it.

Some of the remarks of M. Daressy on the historical position should be noted. He believes that there were four rows of predynastic figures at the beginning, and that these included the kings, the followers of Horus (as in the Turin Papyrus), and the spirits of Buto and Hierakonpolis, beginning with the gods.

The order of the kings in the IVth dynasty has long been a difficulty. The main kings are well known, yet other kings seemed by their remains to come between them. A system of co-regencies is proposed, by which these minor kings were reigning with the great kings. We may perhaps go further on this line, with tentative explanations. What if the long reigns of 63 years of Khufu and 66 or 56 years of Khafra were correct and included these minor reigns? What if the *cause* of these minor reigns was the appointment of a crown prince as ruler at the *sed* festival, and if he died before the elder king the appointment of a second viceroy? The table of M. Daressy is given here, only adding Khnum-khufu on monumental grounds. The Arabic numerals are in the order of the Turin Papyrus, the Roman numerals in the order of Manetho. The lines of genealogic descent are omitted as they are far from certain:

1. Snefru = Soris (I).
2. Khufu = Soufis (II). Khnum-khuf. 3. Dedefra = Ratoises (V).
4. Khafra = Soufis (III). 5. (Bakara =) Bikheris (VI).
6. Menkaura = Menkheres (IV). 7. (Dedefptah =) Thamphthis (VIII). 8. *x*.
9. Shepses kaf = Seberkheres (VII).

Thus, the Turin Papyrus went down the main kings, and then noted the co-regents. The list of Manetho took them in their historical order. This seems a very likely arrangement; and if the co-regents were the *sed*-feast viceroys, who died before succeeding as sole kings, the explanation would be well completed.

A proposal is then made that Herodotus (and from him Diodorus) confused the names of Vth and XXVth dynasty kings, and so brought in the Ethiopians after the Pyramid builders. The explanation of M. Apostolides that a roll of MS. was misplaced in the second book of Herodotus seems a much better explanation. That suggestion has been greatly confirmed by tracing the division of the second book into twelve rolls, and by the catchwords of the beginning of the misplaced rolls being alike, and so leading to confusion.

There is then much that must be carefully recognised in this long study of the early dynasties, though several cardinal points in it do not commend themselves to others.

Le Cercueil de Khu-n-aten.—G. DARESSY (*Bull. Inst. Fran. arch. Orient.*, T. XII).

This Paper gives a detailed description of the coffin found in the tomb at Biban el-Meluk in 1907. The other objects found in that burial have been published, but the coffin was in so decayed and damaged a state that nothing could be done till it had been restored. As this has now been done so far as possible in the Cairo Museum, M. Daressy—always diligent to issue fresh documents—has given a detailed description of it.

The head of the coffin was covered with curls carved in ebony, and fixed with pegs. On the front of it was a bronze uraeus, with the Aten cartouches upon it, and the tail waving up to the top of the head. The whole was gilt, the sheet of gold forming the face had been anciently robbed. The eyes were inlaid, the eyelids and brows with blue glass. The wooden beard was inlaid with lazuli between ribs of gilding. The body was entirely wrought in feather-work inlays, let into the wood, of about 1,500 pieces, all different in shape and size. The inlay was of carnelian, dark blue glass imitating lazuli, light blue glass for turquoise, and selenite crystallised.

The inscription bears a strange history. The cartouches have all been destroyed, in hatred of the person. But the titles are those of Akhenaten undoubtedly. Yet this inscription has been altered, and one less-changed determinative shows that it was originally for a woman. As she is called "the beautiful child of the Aten," it could not be for any queen earlier than Tyi; and as having been altered for Akhenaten, it must be for a queen who died before him. This seems to fix it as made for Queen Tyi. M. Daressy then gives a translation of the restored original text, consisting of the usual phrases of the period, and notes how each of the individual references was altered.

As to the identity of the body found in this coffin, M. Daressy concludes that Akhenaten was buried at Tell Amarna, as his tomb is there, and he had vowed never to leave his new capital. Hence the suggestion is made that the body was that of Tutonkhamen, the first king to cast aside the Aten, and to return to Thebes; if so, the heads on the canopic jars found with the coffin will be those of Tutonkhamen, and a resemblance to his portraits is affirmed.

L'Égypte Céleste. G. DARESSY (*Bull. Inst. Fran. arch. Orient.* T. XII).

In this Paper the Zodiacal lists are used which are in more regular order than the signs on the planisphere of Dendereh. The signs in these lists are described, and compared with the series of gods from Nubia to the Delta. Many correspondences are noted, and the conclusion as to the celestial parallel to the earthly kingdom shown to be probable. The principal connections are: Saturn, Horqa = Meharraqa Horqa; Aquarius, Nile figure pouring out of two vases = Qerti, the two fountains of the Nile at the Cataract; Hordeshert, Mars = Horus of Edfu; Pisces, two fishes = Latus of Latopolis; Jupiter, Horus = Mentu of Hermonthis; Ram = Amen of Thebes; Double god, falcon and Venus planet = Hathor of Dendereh; Twins = Anhur and Mehyt of Thinis; Woman holding child = Merymutf, Khnem of Lycopolis; Virgo = Hathor of Cusae; Sagittarius with heads of man and ram = Hershefi of Heracleopolis. The other connections are less definite, and often can only be traced by a play upon words. These are, however, enough to show how with some ingenuity the Egyptians had modified the signs of external origin, so as to link them with a geographical order of appropriate gods.

NOTES AND NEWS.

Some remarks on Miss Murray's Paper on "The Egyptian Elements in the Grail Romance" have been received from Miss Jessie Weston. Her special knowledge of the Grail literature makes these remarks welcome, though we have made some abbreviation, as the subject lies mostly outside of our Egyptian scope. She writes:—The geographical parallels in which Miss Murray is interested are restricted to the *Grand-Saint-Graal*, a romance which, all critics of the cycle are now agreed, belongs to the latest stage of cyclic redaction. It is an enlargement and extension of Borron's *Joseph*, constructed with a view to the *données* of the prose *Lancelot* in its final form; and the numerous cross-references between *Grand-Saint-Graal*, *Lancelot*, and *Queste*, point to a redaction carried out with a systematic purpose in view, and very possibly under the direction of one guiding hand. The special geographical features, however, have affected the *Lancelot* not at all, and the *Queste* but slightly, *i.e.*, in the introduction of Mordrains, and the mention of Sarras as the final home of the Grail.

The early stages of the Grail cycle, the independent poems, the original Borron trilogy, show no signs of such a contamination. Thus, I would deprecate the form of the title as misleading; "Egyptian Elements in *a* Grail Romance" would be more correct. Readers should surely be warned that the romance in question is one to which modern scholars attach a very restricted importance—it is too late to be of value as evidence for sources. . . .

It must be remembered that we have at present no critical text of the romance in question, nor, indeed, of any save the *Parzival*. Dr. Sommer's recent publications are based on his own selection of MSS., and, while valuable for reference, are neither final nor authoritative. Hence we do not yet know the precise form of the proper names, *e.g.*, the Grail Castle is written Corbe*n*ic, Corbe*r*ic, or Carbonek, to say nothing of minor variants. We can hardly speculate safely on the derivation of the word till we are agreed as to its original form. It may be the deformation of a Celtic name, and, as such, not have figured in Miss Murray's geographical group at all.

Yet the parallels, alike in place names and liturgical details, are arresting; how, then, shall we explain them?

Here I would point out that a text of the thirteenth century ought not to be illustrated from present-day ritual, without making it clear that the Liturgy in question has not undergone substantial modification, and that the parallels to which attention is drawn really existed at the time that the romance was written. Taking this for granted (and it ought to be *proved*), it appears to me that the conclusion to be drawn is that the compiler of the *Grand-Saint-Graal* had at his disposal, besides the Borron *Joseph*, the *Lancelot* and its *Queste*, a MS. containing: *a.* a Conversion; *b.* a Consecration legend, which may or may not have been associated with the same hero, and which were most probably connected with the origins of Egyptian Christianity, possibly with the foundation of some local Church. There is no reason whatever to suppose that Joseph of Arimathea was the original protagonist. I should be inclined to think that the stories were independent, and that, the "Conversion" story having been assigned to him, his son was invented in order to connect him, *tant bien que mal*, with the second tale.

A well known name in Egyptology was that of M. PAUL PIERRET, formerly Conservator at the Louvre, who died at the beginning of this year at Versailles, at the age of seventy-nine. To every beginner the name of Pierret's *Vocabulaire* is familiar; and, though prepared more than forty years ago, it is still useful for quick reference where the many heavy volumes of larger dictionaries are not needed. M. Pierret entered the Louvre at the age of thirty-one, and was Conservator from his thirty-eighth to seventieth year. His earliest publication was the *Études égyptologiques*, 1873–78, in which the inscriptions of the Louvre are the most important part, as being the only publication of that material. Then quickly followed the *Vocabulaire* in 1875, *Dictionnaire d'archéologie égyptienne*, 1875, *Catalogue de la salle historique*, 1877, *Panthéon égyptien*, 1881, *Décret de Canope*, 1881, *Livre des Morts*, 1882, and *Monuments de l'Égypte et de l'Éthiopie*, 1885. Thus all his published work was issued between the ages of thirty-seven and forty-nine; it has the general character of diligent and practical compilation, much of which has not been superseded by any fuller publication.

Enquiries made by Dr. Gordon, on behalf of the Philadelphia Museum, now prove that the action of that Museum in taking over a site already occupied by the British School was based entirely on the official statements of the Department of Antiquities, and was quite legally in order on that ground. Unfortunately, this course was followed without the smallest reference or warning to the British School, as excavators of the site for six years past. We hope that the incorrect statements made in Philadelphia, that we had renounced the site, and that it would be all worked by others, will be withdrawn.

France has suffered severe losses among the Egyptologists. Mons. A. J. Reinach has been missing since the first month of the war. Capt. Weill is severely wounded. M. Sollas is wounded. M. Daumas, the artist of the *Institut Archéologique*, is wounded. Besides these there are the sad losses of the sons of Sir Gaston Maspero and M. Daressy, already known to our readers.

We should have congratulated M. Foucart sooner on his Directorship of the *Institut Archéologique* at Cairo. This post has usually been the training ground for future Directors of the Department of Antiquities.

We have to announce the promotion of Lieut. Engelbach to be Captain, R.E.

Mr. Mackay has joined the Camel Corps.

Mr. Brunton has resigned his Red Cross administration, to the great regret of the staff at Netley, and passed for the Artists' Corps.

THE PORTRAITS.

Les Monuments dits Hycsos.—Par JEAN CAPART. 8vo, 46 pp., 29 figs. 1914. (Bruxelles, Vromant.)

Just before the war, the curator of the Egyptian Museum at Brussels issued—from what was then a peaceful and happy land—a study of importance in early art. Expecting that it would raise a general discussion, we did not then notice it. As now it seems that the world is hopelessly rent for long to come, by the policy of "world-power or going under," and it will be many years before fresh work can be done, a summary of this pamphlet should be put forward.

SPHINX OF TANIS. CAIRO MUSEUM.
COMPARE BEARD OF OPPOSITE FIGURE.

The strange group of royal monuments, mainly found at Tanis, differing from any Egyptian sculptures, was assigned at first to the Hyksos by Mariette, and to this day they are often so called with some apology. Other works akin to these were noticed later, a bust in the Fayum, and another which had been brought to Rome and was found on the Esquiline. By 1893 Golénischeff saw a resemblance to the statues of Amenemhat III, and attributed all these works to the XIIth dynasty. The style of work in every respect, and the far greater strength and heaviness of the face, forbade such an identification. The resemblance might indicate a descent from the same stock. That all the Hyksos inscriptions on the figures were re-appropriations was clear enough, and the only question was, when before that age could such sculptures have been done? The next location for them was to ascribe them to the oriental invaders who overthrew the Old Kingdom. As we had no statuary of those people, there was nothing to contradict, or to support, such a view. Now Dr. Capart brings up the proposal that this mysterious group

belongs to the archaic art before the IVth dynasty, and that it was through such work as this that the Egyptians reached the supreme art of the days of Khufu and Khafra.

The subject has been much complicated by the carefully carved appropriations of such sculptures by Pasebkhanu I of the XXIst dynasty. His name on the chest of each sphinx is well and deeply cut, and the surface has been fully cleared before from all traces of earlier inscription. This, however, does not deceive as to the maker, for the erased Hyksos inscriptions on the shoulders show a far earlier date.

Pottery Lion of Hierakonpolis.

The case is rather different with the two so-called fish offerers. On this group of Hapi figures holding altars there is no earlier inscription, and that of Pasebkhanu is so finely and boldly cut that many—perhaps most—writers granted these to be original work of the XXIst dynasty and so accepted the idea of a Tanite school of sculpture keeping up these peculiarities for a thousand years or more. An important comparison is raised between the three Hapi statues—one of Tehutmes III, this of Pasebkhanu, and one of Sheshenq, just after. The details of the altar before the figure in the XVIIIth and XXIInd dynasties nearly agree,

that inscribed in the XXIst dynasty is quite different. This is a good reason for its being a much earlier work. The peculiar thick ringlets of hair and arrangement of it are shown to be closely the same on the Tanite group as on the figure now in Rome. Hence it seems that the whole of this class of sculpture must be connected, and belongs to a special age rather than to a special locality.

The comparisons brought forward as links with this group are especially, (1) the beard sweeping down from the temple along the jaw below the mouth, alike in the Fayum figure and the fish offerers, and rather slighter in the Roman figure; this is like the beard on a Hierakonpolis ivory head, and a statuette clearly of prehistoric age in the MacGregor Collection; (2) the flat circular spread of hair round the faces of the sphinxes, unlike any Egyptian sphinx, but like the disc of hair around the lion from Hierakonpolis and the lion altar from Saqqara, both of the early dynasties; (3) the thick ringlets of hair of the Hapi figures and the Rome bust, like the shorter, thick, ringlets of the kneeling king of Hierakonpolis. Another comparison is the semi-circular pendant over the shoulder of the Fayum

Ivory Head of Hierakonpolis.
Compare Portrait of Hapi Figures.

figure like the similar pendant over the shoulder of a seated figure of Onkh-tekh at Leyden, and borne by the attendant of Narmer on the palette. This is not of much value as it occurs with the panther-skin dress of a priest of Khensu, and is probably a priestly decoration which continued for ages. On the ground of these comparisons, Dr. Capart proposes to see a close relation between these peculiar figures and the early dynastic or prehistoric style, and claims a position before the IVth dynasty for them.

Let us now review the periods before the Hyksos Age, when these figures were already old.

In the XIIth dynasty we know the style in use from many examples, and there is no trace of the peculiarities named above. There is a slight facial resemblance to some of the later kings of the XIIth dynasty, and some of the heads which have been called Hyksos—as the colossi of Bubastis—are probably of the XIIth; but the characteristic work cannot be placed there.

In the dark age of the VIIth to Xth dynasties there are no comparisons, and Dr. Capart relies on the argument that such works as these would imply a total break of the traditional style which appears to be unbroken from the Old to the Middle Kingdom. Certainly in relief sculpture the decay was gentle and continuous until the XIth dynasty renascence.

In the great age of the IVth to the VIth dynasties there is no possible place for a different style.

FIGURE OF KING OF HIERAKONPOLIS.
COMPARE HAIR OF ESQUILINE PORTRAIT.

In the IInd and IIIrd dynasties we have the two seated figures of Kho-sekhem, the kneeling granite figure at Cairo, the panels at Hesy, and several figures which must belong here, as Sepa and Nesa, the figures of Leyden, etc. In all these, though some slight approaches to the peculiar style may be detected, yet the usual chain of Egyptian development leaves no room for such great differences.

In the Ist dynasty there is the ivory king of Abydos, and several other ivory figures from there, but all purely Egyptian. At Hierakonpolis not a single ivory

figure has the heavy ringlets of hair, and only some have the all-round beard, which after all is known among Bedawy and other races. The relief figures of Narmer and of his men show no trace of the peculiar style in any way.

We are driven back then, step by step, to the unknown age of the predynastic princes of Heliopolis and the Delta, and the comparison of the beard in two or three cases, and the approach to the ringlets of the kneeling king, are the only help in this period. It seems that we must definitely say that there is no other choice than the predynastic, or an intrusive art of some later period which did not break up the Egyptian style. Seeing that hard-stone carving seems to have been unknown in the Ist dynasty, it is difficult to suppose that an earlier age had surpassed that great time of development. If we look to any later age we must grant that it is quite as difficult to put an intrusive art in during the Ist–IIIrd dynasties as it would be in the VIIth–Xth dynasties. In either case it would break across the Egyptian development. But as the interval VII–X is of over four centuries' length, there is much more time for such a break than there is between Narmer, the ivory king of Abydos, the granite kneeler, Kho-sekhem, the Hesy panels, and the early private statues. These form a chain of two or more points in each dynasty, where no great change can be presumed.

The resemblances between the peculiar style and the predynastic figures would be quite accounted for, if the race of these early figures again penetrated Egypt in later times, and there is nothing against such movement having occurred. The entry of such people just before the Middle Kingdom would best account for the facial resemblances between them and the kings of that age.

On the whole, therefore, it still seems most probable that this peculiar style of heavy ringlets, massive face, and low beard, belongs to the Eastern invaders who broke up the Old Kingdom, and who had some kinship with other people who appear at the beginning of the dynasties. The only alternative is to place the highly finished immense figures of black granite in a totally unknown period, before the rising art of the Ist dynasty.

BUST FOUND ON THE ESQUILINE, ROME.
IMPORTED FROM EGYPT.
BLACK GRANITE. THERMAE MUSEUM.

BUST FOUND AT THE CAPITAL OF THE FAYUM.
IN INSIGNIA OF A HIGH PRIEST OF KHONSU.
GREY GRANITE. CAIRO MUSEUM.

JOINT STATUES OF HAPI WITH ALTARS.

TANIS. CAIRO MUSEUM.

seed, the ovary becomes bulbous, like a poppy (Fig. 51), and sinks under water; whereas, during the period of flowering the stem is erect. The leaf stalks spring from the root (Fig. 17), and the leaves always float on the surface. The seed pod is like that of the poppy, having a similar rayed stigma (Fig. 51), and containing within it numerous dark small seeds.

The White and Blue Lotus.

The two Nymphaeas found in the palmy days of Ancient Egypt were the N. Lotus and the N. Caerulea, *i.e.*, the white and the blue varieties. They vary somewhat in form and in their habits; both were extensively used for decoration, as I shall describe later. The blooms of the N. Lotus (Figs. 4, 6, 7) are fragrant, the odour being "piquante," usually pure white, but there is a variety termed Rosea (Fig. 5) with rose-coloured petals found among them. And in one of the coloured wall paintings of an early dynasty I find this clearly depicted. There is a specimen in Kew Gardens marked N. Lotus, of a lovely red throughout, except the stamens which are yellow and spring from the summit instead of the base of the ovary.

The N. Caerulea (Figs. 1, 2, 3) is what is called a heavenly blue, and that, too, sometimes shades off into pink just as our forget-me-nots have a trick of doing. The odour is extremely sweet and "suave" (Savigny). The white lotus opens in the afternoon or evening and closes by mid-day, whereas the blue nymphaea opens in the morning and closes at night. The Moon has been styled, "the lover of the lotus," *i.e.*, the night-blooming one, on this account.

The Red Lotus.

There is another Nymphaea, the Rubra, the red lotus of India (Fig. 18), confined to British India and Bengal, which has the same characteristics, the only difference being that the stigma is sixteen- instead of eight-rayed. It is of a brilliant ruby colour throughout, and is the lotus of the Hindu padma prayer, "as the full moon with its mild light opens the buds of the water lily." The blue and white forms (Cunningham) remain more or less above water for a period of four days. On the first of these the flower appears as a bud just rising above the surface: on the second it is half open and quite clear of the water: on the third it is fully open and still more elevated: on the fourth it remains fully expanded, but rests on the surface, and on the following day it is quite submerged. The mature flowers remain tightly closed during the day, and are wide open all night, until about ten o'clock next morning, when they are completely shut until late in the evening. The N. Rubra flowers keep their petals open above the water for five days, and closed at night, then sink under water without shedding them.

The Japanese Nelumbium.

Now the sacred lotus of Japan, which has been erroneously called also the Egyptian lotus, is different in many respects (Fig. 8). The Nelumbium speciosum formerly grew in Egypt, according to Herodotus, though some modern writers dispute this. Delile however supports his statement that it was so. Called by the Ancients the "Bean of Egypt," it is best known by its peculiar obconical receptacle, which has been likened to the rose of a watering can, or a pepper box, which remains erect out of the water. The leaf stalks spring from the root, having large peltate

leaves centrally fixed, and the long flower stalk rising several feet out of the water bearing a large, solitary, fragrant flower of pure white, or bright rose colour. Some are white with rose tipped petals. The bud has a series of overlapping sepals like

7. *NYMPHAEA LOTUS.*
Outline of type specimen in Smith's Herbarium, Linnaean Society. 4/5 size.

scales, not of uniform size: and does not therefore show the characteristic three sepaled appearance of the lotus. The calyx leaves drop away and disappear as the flower opens, leaving enormous white or pink corollas like single peonies, shining

out among a dense mass of large round leaves. The dried stalks of the leaves of the Nelumbo were used to make wicks for the lamps in the Chinese and Japanese temples,—possibly also in Egypt.

8. *NELUMBIUM SPECIOSUM*, SACRED LILY OF JAPAN.
Red flower. 1/3 size.

The Lotus Seeds.

The seeds of the Nelumbium are about the size of small acorns, pleasant to the taste and used for food, but not to the same extent as the seeds of the Nymphaea, which are still used in Egypt and West Africa. The loaves made from the seeds and roots in Egypt were termed lily loaves, and appeared on the tables of the

Egyptian kings of the XIXth dynasty. They are very nutritious and contain starch, proteid, and oil : the tubers are almost solid starch, and are eaten boiled or roast, like potatoes. Sonnini (*Travels in E.*, 1777) says, in his day they were sold ready dressed and at a very low price in the streets of Rosetta, where the lower class of people ate them in large quantities. Only the seeds of the lotus and blue lily are said to be so used in Egypt. They are prepared by the fruit being laid in heaps until the soft parts decay, the seeds and kernels are then easily separated, washed clean, dried and stowed away to be ground in hand mills.

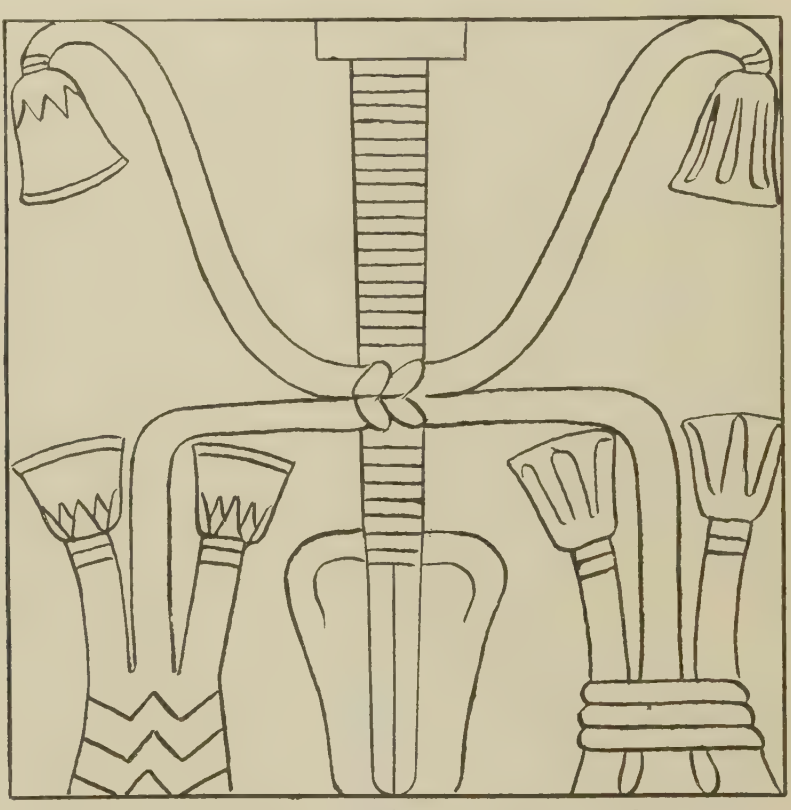
9. Three Papyrus Heads Arising from a Lotus. (Wilk. 611.)

The use of the seeds in making bread, and the mode of sowing them by enclosing in a ball of clay and throwing it into the water may probably explain the text, "Cast thy bread upon the waters, for thou shalt find it after many days." The lotus seeds come up annually: the Nelumbo takes from five to seven years sometimes to germinate (Sir David Prain). The fable of the nymph Lotis who was transformed into a tree bearing her name is in no way connected with water lilies. This lotis or lotos tree (Zizyphus lotus) is a moderate sized, thorny tree with reddish fruit containing a sweet nut, the jujube tree, from which a "divine nectareous juice" was made. Homer tells us that when Ulysses sent his men to see what the "melancholy, mild-eyed lotus eaters" were like,

"What man of themsoever of that sweet thing did eat
Had no will to bear back tidings, or to get him back again ;
But to bide with the lotus eaters for ever was he fain,
And to eat the lotus for ever, and forget his returning day."
(W. Morris' translation.)

The Artistic Adaptations.

The Nymphaea lotus is the one flower of all others which probably gave birth to Art as we find it exemplified in some of the most ancient monuments. A study of it will give the key to the adaptation of the beauty of plant form to all kinds of decorative work up to the present day.



10. Lotus (left) and Papyrus (right) knotted around the Sign of Union, symbolizing the Union of North and South Egypt.
From the Throne of Khofra, the earliest example.

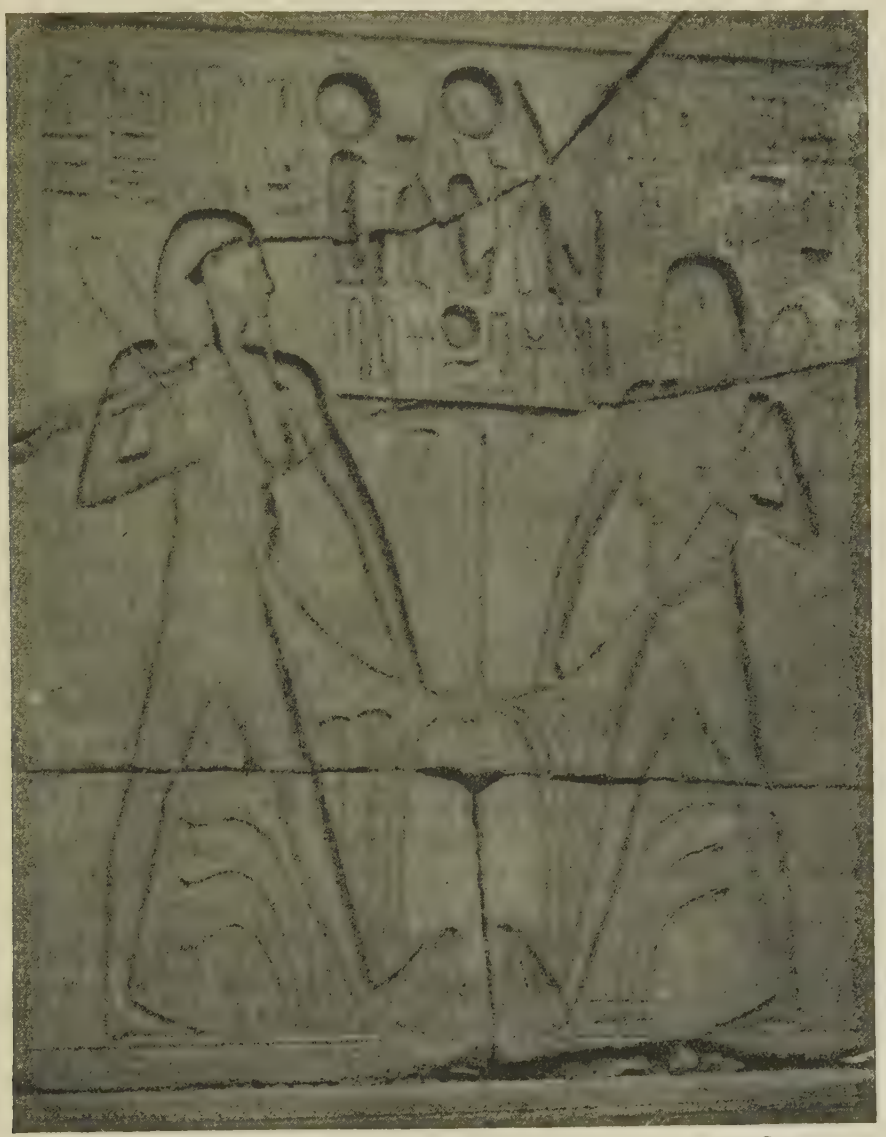
But I ought to say a word about another plant which is closely associated with the lotus in Egyptian Art, that is the papyrus, which entered largely into the decorations of the ancient Egyptians. The large fan of the papyrus head is here grouped with the lotus in Fig. 9. The Cyperus papyrus grew in great abundance in former days in Egypt and, as a Government monopoly, was a source of considerable revenue. Its use for making paper can be dated back to the IIIrd dynasty. It ceased to be used for the purpose about A.D. 700. Besides being copied for ornament, it was sometimes used to deck the statues of the gods, as well as for food.

The very name of water nymph seems to denote a mystic origin, and we shall find how closely the lotus in its various forms has been associated with sacred symbols and conceptions of purity and beauty, from the days when it was adopted

by the ancient Egyptians many thousand years ago. The plant remains the same as then: the beauty it has given birth to survives also.

Although the Nelumbo has been spoken of as the Egyptian lily, we find no evidence of its having been employed in the decorative work of that country, except on very rare occasions, at any period of its history, as it was less adapted for artistic work than the white and blue Nymphaeas were.

It has struck me as a curious fact that the more beautiful of these plants should have found no permanent place in the monumental records of Egypt; and



11. The Upper and Lower Nile holding the Papyrus and Lotus Stems, twisted as in Fig. 10. Statue of Rameses II, Luqsor.

the only explanation I can offer is that the inherent beauty and grace of the outlines of the Nymphaea have, by their very simplicity, established a certain principle or type where the more complex structure of the handsome Nelumbo has failed.

How far the lotus was an object of worship seems doubtful, but from an early period we find it closely associated with Egyptian gods and kings. There seems to

be no trace of using the lotus at Hierakonpolis or in the Royal Tombs of Abydos. Apparently, the earliest dated example is in the group on the sides of the throne of Khafra in the IVth dynasty. To symbolise the union of all Egypt, the lotus plant of the South and the papyrus of the North were intertwined round the hieroglyph of union (Fig. 10). This group was expanded in the XIIth dynasty by adding the figures of the Upper and Lower Nile, Hapi in two aspects, as holding the respective plants (Fig. 11), and this group was continued as a standard decoration for royal thrones in the XVIIIth dynasty and onwards. The Nile-god in his two forms is likewise shown in the large group with altars covered with fish and plants found at Tanis, commonly called the fish offerers. Later figures show a single statue of Hapi with an altar before him, covered with lotus and wild ducks, as under Tehutmes III, and the well-known figure in the British Museum, dedicated by Sheshenq.

12. Horus Seated on the Blue Lotus. Bronze. Cairo.

13. Horus Seated on the White Lotus, surrounded by the Blue Lotus. Bronze. Cairo.

The inscriptions call him "Hapi, father of the gods, lord of sustenance, who maketh food to be, and covereth the two lands of Egypt with his products: who giveth life, banisheth want, and filleth the granaries to overflowing." In the hymn chanted at the great Nile festival, we find in the 12th verse: "When thou art risen in the city of the Prince—then is the rich man filled—the small man (the poor) disdaineth the lotus—all is solid and of good quality—all herbage is for his children. Doth he forget to give food, prosperity forsaketh the dwellings—the earth falleth into wasting sickness." This serves to indicate that while the lotus afforded ordinary food for the poor, they were very willing to have some of a better sort.

The Lotus in Religion.

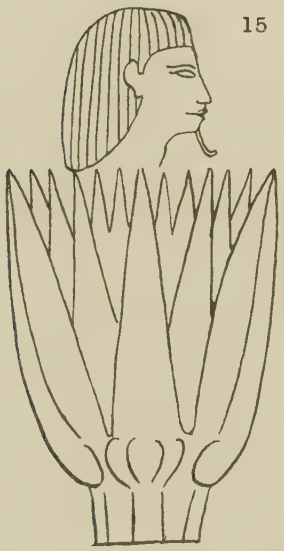
The lotus stands alone as the plant to which was assigned by the ancient Egyptians the mystic habitation of the spirits of the blest, and as a symbol of life and immortality as well as of resurrection. Hence we find bronze figures of Horus on the lotus (Figs. 12, 13), and, among the paintings, one representing Horus rising from a lotus flower. This drawing is intended to indicate the Nû, that watery abyss from which the lotus sprang on the morning of creation, and whereon he is still supposed to bloom. According to Maspero, in the beginning Rā was the sun whose fires appeared to be lighted every morning in the East, and to be extinguished at evening in the West. But how could the sun have existed in the Nû (*i.e.*, the waters beneath the primordial ocean) without either drying up the waters or being extinguished by them? The identification of Rā with Horus cleared up this difficulty. The god needed only to have his right eye closed in order to prevent his fires from coming in contact with the water. He is said to have shut up his disc within a lotus bud, whose petals safely protected it. The flower had opened on the morning of the first day, and from it the god had sprung suddenly as a child wearing the solar disc upon his head.

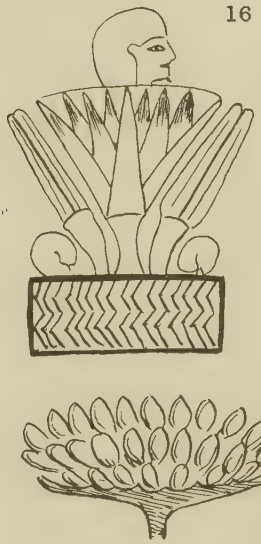
14. Nefer-tem, with Blue Lotus on the Head. Bronze. Cairo.

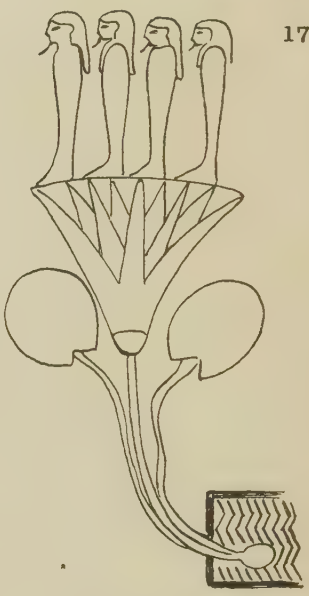
Another of the gods we find associated with the lotus, one of the Memphite triad, Nefer-Tem or Nefer-Atmu (Fig. 14) who appears with the lotus flower upon his head. As a god of the rising sun, we find the deceased after being transformed into a lotus, addressing him thus: "I am the pure lotus which springeth up from the divine splendour that belongeth to the nostrils of Rā," and again, "Hail, thou lotus, thou type of the god Nefer-Tem! I am one who knoweth you . . . . . and I am one of you." The vignette of the first version is a lotus, and that of the second a lotus plant with a flower and buds growing out of a pool of water (Figs. 15, 16), and out of the flower springs a human head (*i.e.*, the head of the deceased).

The fruit of the lotus is an emblem of Isis or Abundance, and is so dedicated by Egypt (Foucart). The association of the lotus with the life-giving sun is but another example of the sacred character which was one of its attributes. The lotus as a symbol of life or resurrection, is shown by its constant association (Fig. 17) with the genii of Amenti (*i.e.*, the Lower World), the genii of the dead, and the children of Osiris and Horus. A representation on the wall of the temple of Dar el-Medeenah at Thebes shows the four genii of Amenti standing before Osiris on an open lotus flower (*Wilkinson*, ed. Birch, III, p. 468) and in the Papyrus of Hunefer (Fig. 17) the lotus is shown growing out of a pool at the feet of Osiris.

In those countries where Brahma and Buddha were worshipped, we find the deities often seated on a lotus flower, usually the Nelumbo (Fig. 18). In Japan it was the emblem of purity, inasmuch as it was never disfigured by the muddy waters in which it often grew. Vishnu is shown as holding in one of his four hands a lotus flower as a type of creative power; while Lakshmi, the consort of Vishnu, was termed "lotus born" from having arisen from the primordial ocean upon its blossom. Birdwood tells us that when the whole earth was covered with water Vishnu lay asleep, extended on the serpent Ananta ("the infinite") and while he





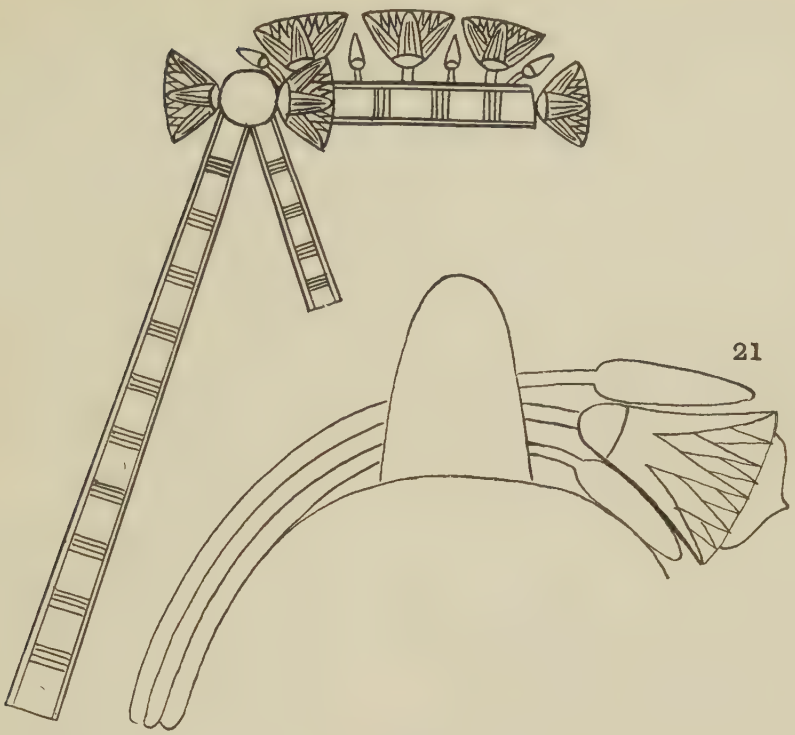


15. Head of the Deceased in his Lotus Transformation. Papyrus of Aufonkh.
16. Head of the Deceased on a Lotus with Buds and Leaves in a Pool. Papyrus of Any.
17. Four Sons of Horus on a Lotus which rises out of a Pool at the feet of Osiris. Papyrus of Hunefer.
18. Indian Lotus of Buddha. Red petals.
19. Headband of Princess Nefert. Early IVth dynasty.

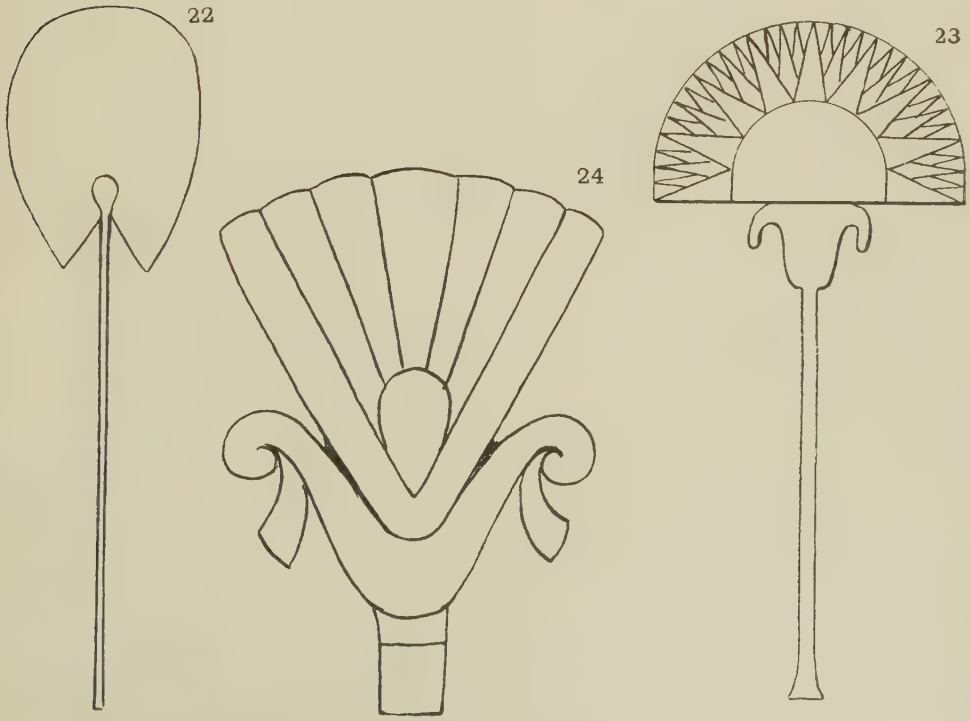
slept, a lotus sprang from his navel, and from its flower came Brahma. It seems, therefore, clear that, if I may coin a word, the odour of its beauty made itself felt before the natural forms of the plants began to be utilized in Art, just as the "odour of sanctity" serves for both the shadow and the substance.

The Lotus in Daily Life.

The Egyptians were very fond of flowers, and acknowledged Min as their God of Gardens, corresponding to the Greek Pan. The blue lotus was probably more common, the white one most cultivated in gardens; and it seems likely that the



20. Headband with Lotus Flowers. XIIth dynasty. (Newberry: *El-Bersheh.*)
21. Lotus and Buds put through the Cone of Hair on the Head. XVIIIth dynasty. (Prisse.)



22. Lotus Leaf Fan. XVIIIth dynasty. Deir el-Bahri.
23. Sunshade of Lotus Pattern. Deir el-Bahri.
24. Palmetto Development of Lotus. XVIIIth dynasty. Tell Amarna.

greater frequency with which the blue one was depicted is owing to the fact of its being a day flower, while the white one only opening at night would be less accessible to the artists of that day. On the other hand, the more fragrant white or rose lily fresh from the gardens would be better adapted as an evening ornament for the ladies at their entertainments, as we see so often depicted, where the guests had each a lotus flower or rose bud placed in the hand, and this was retained throughout the feast; servants also brought necklaces of flowers. Composed chiefly of the lotus, a garland was also put round the head (Fig. 20), or a single lotus bud or full blown flower was so attached as to hang over the forehead (Fig. 21). Many of these made up into wreaths and other devices were placed in the room to

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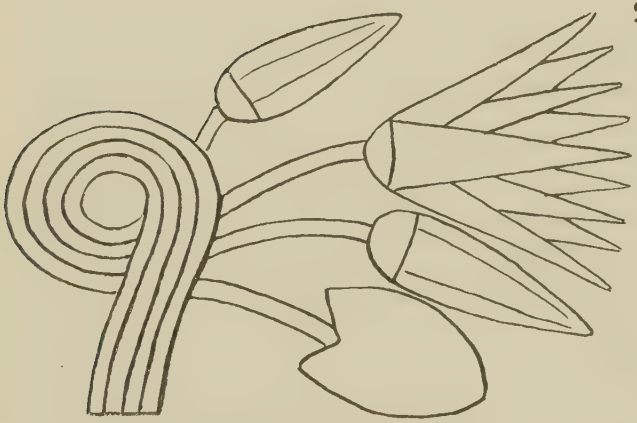

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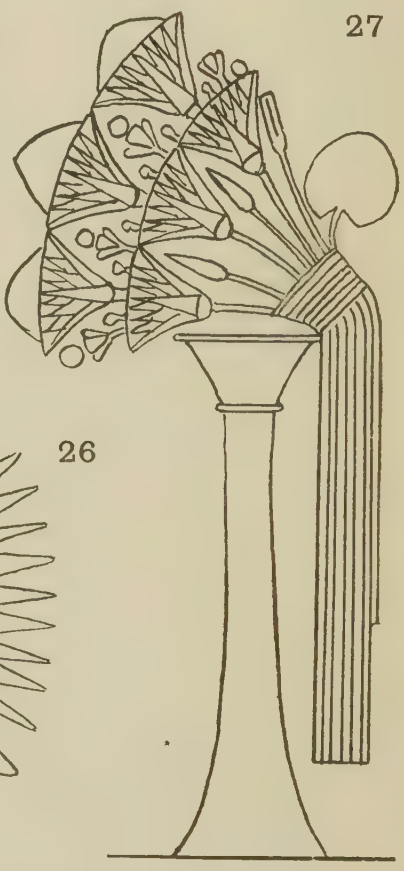

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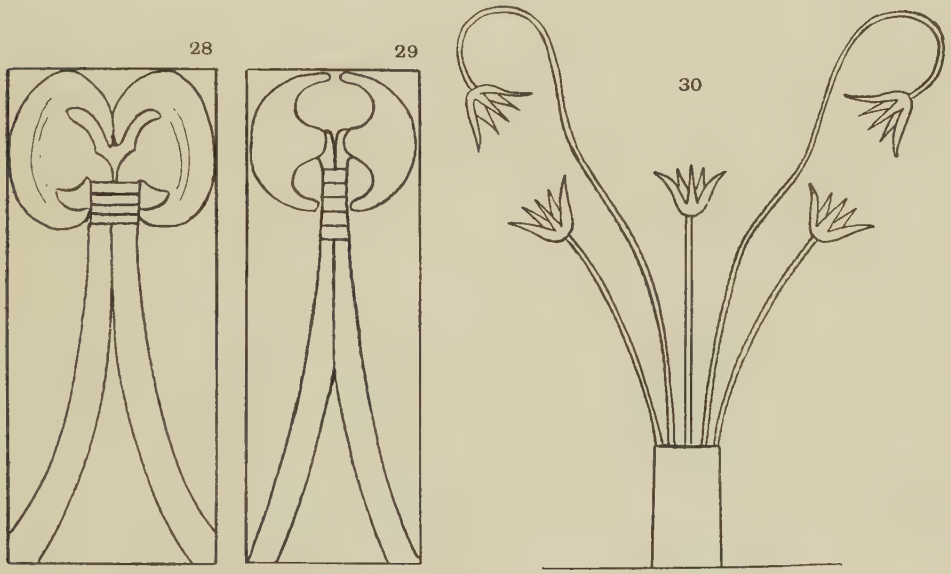
25. White Lotus between Blue Lotuses, in Porphyry Bowl with Spouted Edge. Tomb offerings. XIIth dynasty.
26. Lotus Group on Offerings to the Dead. XVIIIth dynasty. Deir el-Bahri.
27. Lotus Group on an Altar offered by Sety I. Abydos.

be in readiness for use, and servants constantly brought fresh flowers from the garden to supply the guests as their bouquets faded.

So fond were the Egyptians of flowers, and so desirous to grace their gardens with profusion, that they even exacted contributions from nations which were tributary to them. They carried this fondness for them still further by painting the water lilies among the fancy devices on their walls, on their dresses, furniture, chairs, boats, fans (Fig. 22), sunshades (Fig. 23), or indeed anything they wished to ornament, and they even composed artificial flowers termed "Aegyptiae." Moreover, the lotus was constantly associated with all the Osirian funeral ceremonies: with religious

offerings for the dead (Figs. 25, 26), or placed alone on an altar before the gods (Fig. 27), as well as presented to the divinities protecting the dead: thus, it was the symbolical flower of death and resurrection, as I have already mentioned. This could, however, only apply to the Nymphaea, as the Nelumbo does not sink and rise again day by day. "The use of flowers in funeral decorations seems to have been very prominent in the XIXth–XXIst dynasties. The custom was to lay wreaths and semicircles of lotus flowers on the breast of the enwrapped corpse, until the sarcophagus was quite packed with these floral tributes. Flowers of the Nymphaea Cerulea, on stalks about a foot long, were fastened between the bands encircling the mummies of Rameses II and the priest Nibsoni, and scattered singly all over them. Breast wreaths, consisting mostly of petals and sepals of the same plant, sometimes also with petals of the N. Lotus, were found in the coffins of Rameses II, Amenhotep I, Ahmes (1580 B.C.), the priest Nibsoni, the princess Nesi-Khonsu, from the XXth and XXIst dynasties found at Deir el-Bahri



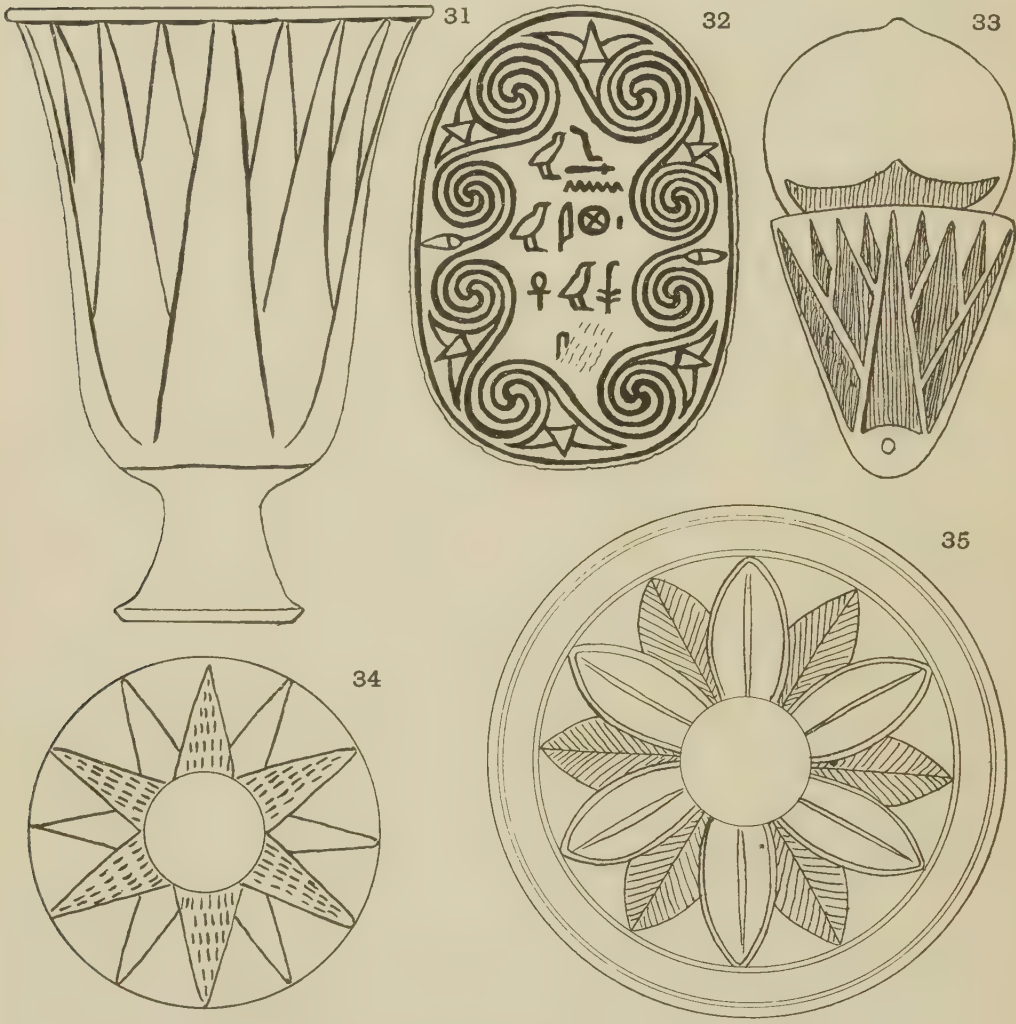
28. Two Lotus or Papyrus Heads tied. Tomb of Ka-aper. IVth dynasty.
29. Similar. IVth dynasty. Saqqara.
30. Lotus Group on Granite Column. Rameses II. Memphis.

(Thebes) in 1881. These are probably the 'Egyptian wreaths' of Pliny and Plutarch, the 'lotus garlands' of Athenaeus. Most of these plant remains date from 1500 to 1200 B.C., but those of Rameses II were renewed about 1100 B.C., for in moving these sarcophagi at that time into their secret resting place in the Valley of the Tombs of the Kings, that of Rameses II was accidentally broken: a new coffin and new floral decorations being then provided."—*Muschler.*

As the ancient Egyptian religion died out, the Nymphaeae have to a large extent ceased to be cultivated in gardens, just as in India and Japan the Nelumbo has almost disappeared along with Buddhism, except where nurtured in old Temple gardens by the priests. These facts seem rather to indicate a definite relation to former religious rites in both cases.

It will be seen from the illustrations of the lotus proper (Figs. 1–7) and the Nelumbo (Fig. 8), that the former is the only one which fully explains its adaptation to decorative art. The inflorescence of the Nelumbo is never found in any

Egyptian work as a sacred emblem, and the seed vessel never appears. On the other hand, if you observe the arrangement of the petals and the drooping calyx leaves of the blue or white lily, and especially the buds of the same plants, their exact likeness to the earliest representations known is evident. The same applies to the rayed stigma, which both in its fresh and dried state gives us the figure of the Egyptian rosette (Princess Nefert) (Fig. 19). This is also shown in a section.



31. Blue Glazed Lotus Cup. Nubt. University College. 5 : 8.
32. Scarab with Scrolls and Lotus; of the Marshal of the City, Ausuonkh. Turin. 5 : 2.
33. Wooden Lid of Toilet Box. University College. 5 : 8.
34. Outside of Blue Glazed Bowl. XVIIIth dynasty. University College. 5 : 8.
35. Outside of Steatite Dish. Roman. University College. 5 : 8.

The palmette (Fig. 23) is the ovary stigma combined with the lotus flower. This was used in Egypt some 2,800 years before it was seen in Assyria.

The inherent love of beautiful forms and of drawing them was, as Petrie says, a great force among the Egyptians, and made Egypt the birthplace of the world's best ornament.

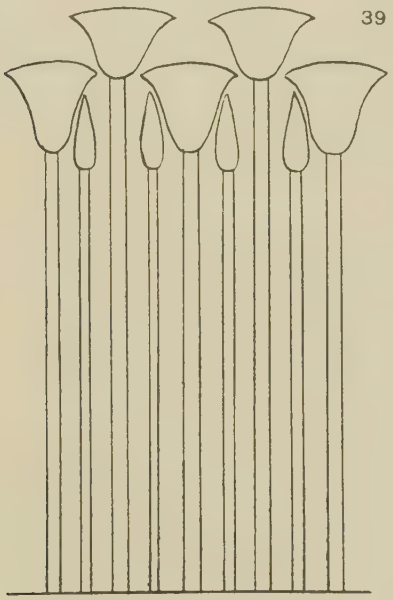
The Lotus in Formal Ornament.

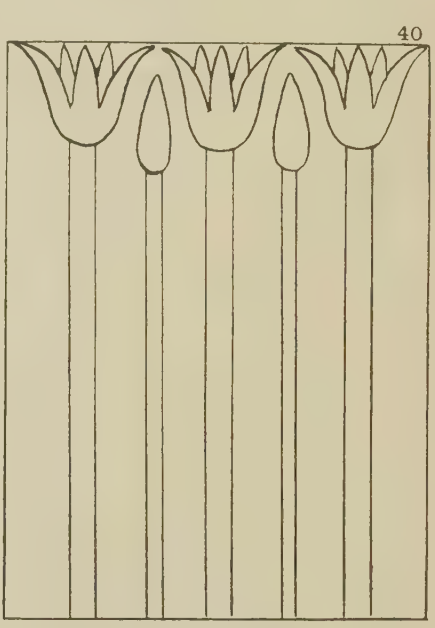
In the very earliest Egyptian work there is found a combination of the spiral and geometric forms, while we find before the IVth dynasty the lotus represented on pottery, and in the IVth dynasty the group of two tied lotus flowers, which continued till the XVIIIth dynasty (Figs. 28, 29). At this remote period of the world's records the traditions of religion and of art were so carefully handed down from one generation to another, that according to the best authorities, it is almost impossible to trace the gradations from the crudest to the more advanced forms.

36, 37. Borders of Lotus Flowers. } XVIIIth dynasty.
38. Quadruple Lotus Groups. } Prisse.

Plato ascribes this seeming changelessness in the Egyptians to the fact that the forms represented in the temples patterns of virtue, which were appropriated by the priests, and that no artist or painter was permitted to depart from the traditional and invent new ones, that these works of art discovered later were moulded in the form of 10,000 years before, so that the ancient sculptures and paintings underwent little, if any, change during these long ages. It was not until the time when conventionalism began to tell, that decadence took place as I shall try to show later.

We have not time to go into geometrical decoration, except so far as it is associated with the subject of this paper. The lotus has been held to explain the concentric rings which have been so beautifully drawn on the scarabs of the VIth dynasty, and even earlier than this. These spirals are said to represent (Fig. 32) the wanderings of the soul, but as Prof. Petrie asks, how could the soul go both ways at once? To my mind tendrils more probably gave rise to this form of ornament, and the endless spirals may fitly represent eternity, as we know that the ancient Egyptians believed in the immortality of the Soul. We find in this example of the XIIth dynasty the flower of the lotus introduced with excellent effect (Fig. 32), and later in a more geometrical combined form as in this (Figs. 36, 37). This combination was employed in a great variety of ways, but no examples have been found of circular decoration before the XVIIIth dynasty. Among them the most beautiful type was with contiguous circles, each containing four lotus flowers (Fig. 38). The rich effect of the insertion of these is very marked. The lotus



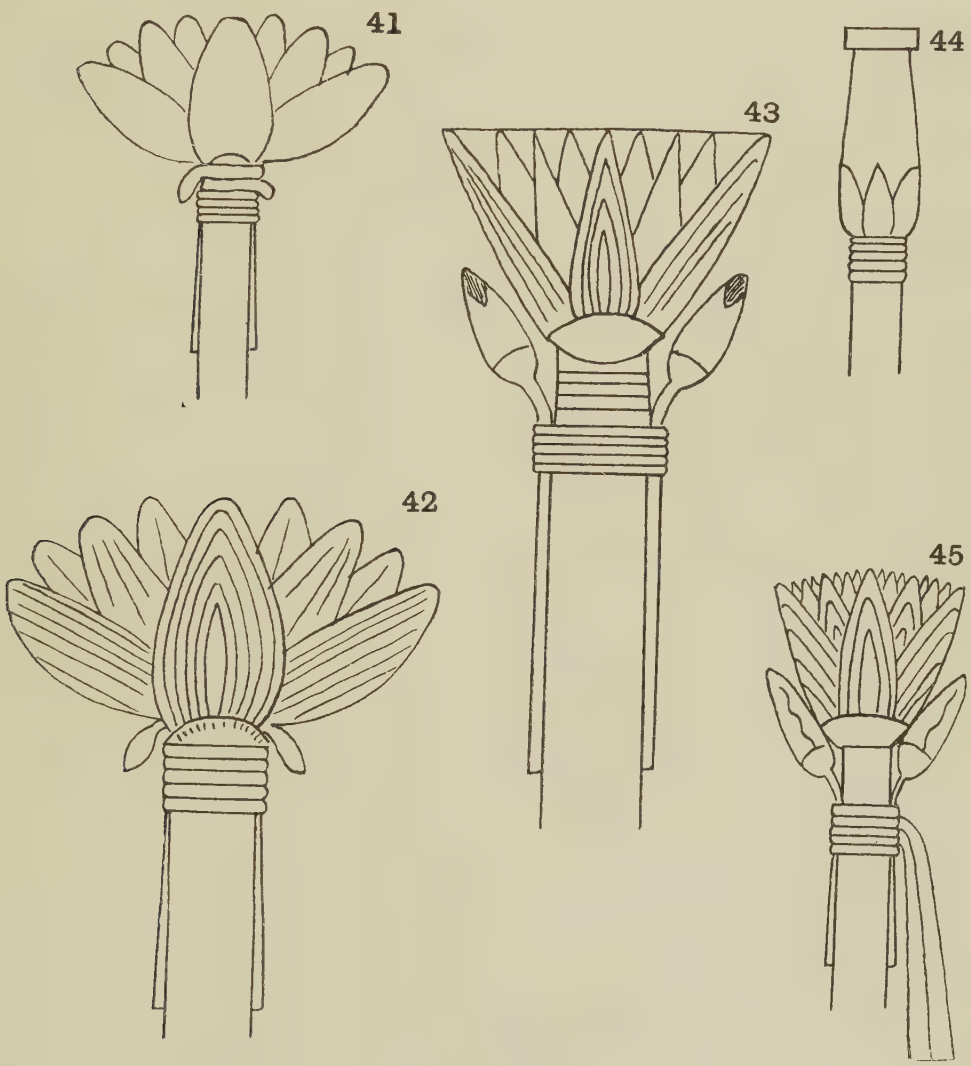


39. Clump of Papyrus. Tomb of Debuhen. IVth dynasty. (L.D. ii, 35.)
40. Matting of Lotus Pattern. Tomb of Rashepses. Vth dynasty. (L.D. ii, 64.)

occasionally is figured with six sepals, as Figs. 34, 35; but the circle alone is never found divided into six parts, as in Assyria and Syria, but always four or a multiple of that number. Probably they never used compasses at that period.

The earliest known delineation of lotus alone is on some prehistoric pottery found at Koptos. It is crude but quite correctly drawn and easily recognisable as the sepals of the blue lotus. On the head-band of the statue of Princess Nefert, which is no doubt familiar to you, of the IVth dynasty, we have the blue lotus shown, combined with the rosette derived from the lotus as I have already explained (Fig. 19). As the lotus flower was emblematic of eternal youth, we find it commonly on charms of all kinds—in fact it is seen on almost every article the Egyptians possessed. The cups were usually copied from the lotus flower, as Fig. 31. An ornamental box with lid in the British Museum from Thebes about 1050 B.C. gives a good idea of lotus wood carving, and the lotus lid of a box is shown here (Fig. 33). Some of the jewellery, headdresses and ornaments are beautiful examples of fine lotus work of that period. Later on, the artistic skill

assumed a more mechanical style and evinced less individuality. That devotion of the workman to the work he loved, and which he represented so faithfully, a marked feature of the Japanese also, decayed by degrees, as other nations implanted new ideas and new methods upon it. Some writers have thought the rosette pattern was derived from the daisy, as in some examples, especially on embroidery work, the yellow centre is shown. This is quite possible, though the lotus rosette is almost universal.



41, 42. White Lotus Capitals. VIth dynasty. Zowyet el-Meyetin.
43. Lotus Capital of Amenhotep II. Thebes.
44, 45. Lotus Capitals of Amenhotep III. Thebes. All Prisse.

As a border pattern the lotus was not used before the XVIIIth dynasty, where we find it delineated in a somewhat formal manner (Figs. 36, 37). But long before this, in the XIIth dynasty, the whole plant of the lotus was employed as a decoration both on architecture and sculpture, and later it was of a more free character, tending to become less natural and more conventional. And next we find it becoming in the Ptolemaic period more stiff still, being represented by parallel lines both for the lotus and papyrus. Then more complicated forms came in, leading to

the Greek anthemion (derived from the Egyptian), and other complicated evolutions. It is quite possible the Greek palmetto arose from the lotus also, as well as the fleur-de-lys. Many other flowers were thus introduced which do not concern us here.

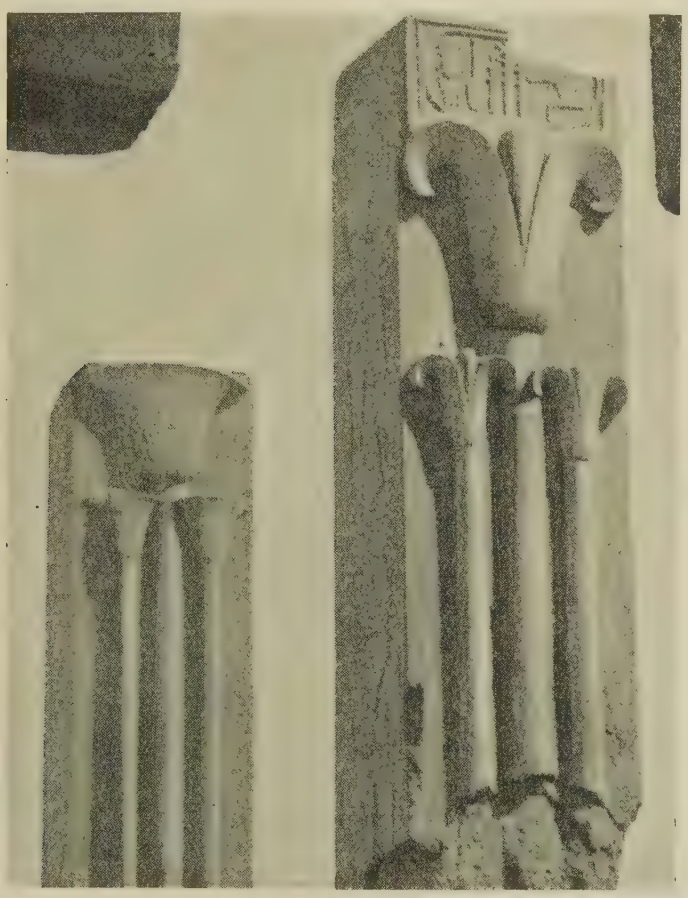
Now we come to the adaptation of the lotus plant to architecture, and we are at once struck by the fact that Egypt affords by far the most ancient examples: it was in fact its birthplace. The lotus motive is characteristic of the finest examples

46. White Lotus Capital with Blue Lotus Flowers above.
47. Blue Lotus Capital. Both Vth dynasty (?). Memphis.

of Egyptian architecture, and the variety is great. The conventional forms of the lotus which have been multiplied almost indefinitely in every direction, invariably convey the idea of the flower or the plant, and to this day in a large proportion of the best designs one can trace this influence.

The earliest delineation of the lotus flower is stated by Miss Murray to be on the tomb of the Sheikh el-Beled at Sakkarah (Fig. 28), but it looks to me more like papyrus. It often is carved on mastabas, as Fig. 29. There is a typical lotus

capital in wood of the VIth dynasty described by Prisse d'Avennes (Figs. 41, 42), which clearly is taken from the white lotus to which the buds and flower exactly correspond. Prof. Petrie gives a photograph of the white lotus capital of the Vth dynasty found at Memphis (Fig. 46). Of the same age is also the blue lotus capital (Fig. 47). At the Temple of Karnak we find some beautiful examples of the adaptation of the lotus flower to the capitals of some of the enormous granite columns of Tehutmes III (Fig. 48). The calyx is there without the flower, and is only one step removed from the Greek Ionic capital, and about 1400 B.C. this modification was actually used in Egypt, some 800 years before it appeared in Greece.

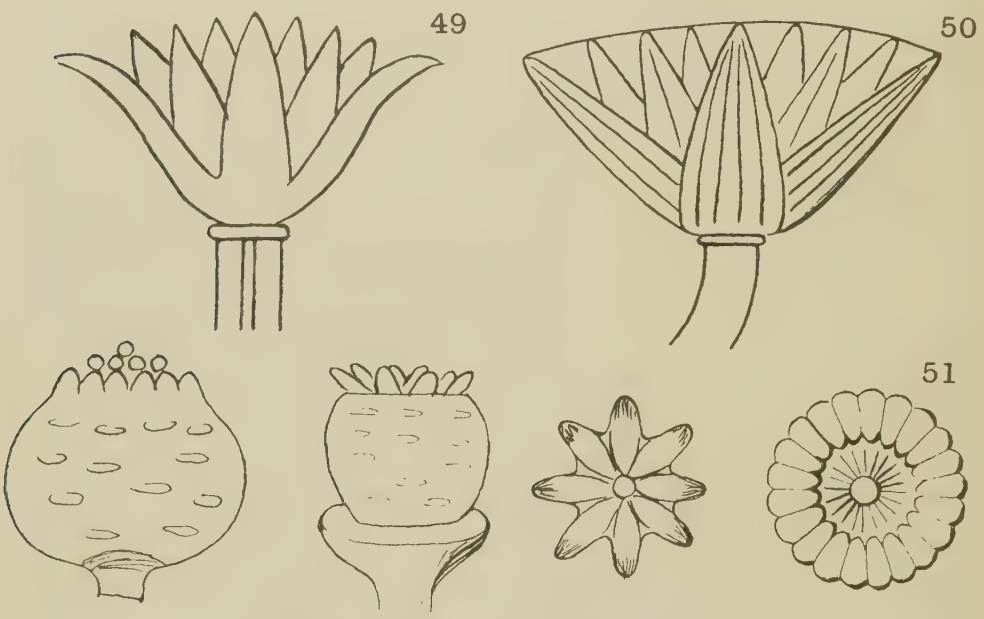


48. Granite Pillars with Papyrus and Lotus.
Tehutmes III. Karnak.

A good illustration of the closed bud and open flower designs are given by Prisse—clearly the lotus (Figs. 43, 44, 45). One mark of distinction between that and the papyrus column is that, in the latter, root leaves are usually depicted at the foot of the papyrus design, never on that of the lotus—showing how carefully Nature was followed at that early period. In some of the lotus columns, as at Philae, no two are quite alike. I need not multiply instances of this kind; they must be quite familiar to everyone, for some fine examples are to be seen in our British Museum; though to be fully appreciated they must be seen *in situ*, with the soft Egyptian moonlight or sunrise playing upon them and casting over them a glamour which is unique.

I have endeavoured, in taking the lotus of Egypt as my text, to confine my remarks to that more especially as the source of beautiful design, from which lovely flower forms were instilled into the minds of the Egyptians giving them their ideas of beauty thousands of years ago: the beginning from which most artistic forms have since been developed. The Egyptians long ago discovered that you cannot with impunity encroach upon the simple law of natural beauty, as exemplified in the curves of plant life, any more than you can infringe other natural laws without a corresponding injury. In fact, the more nearly we can approach the harmony which prevails in the complete work of Nature, the more perfect will the copy appear, and so much the more likely is it to become a "joy for ever."

W. D. SPANTON.



49. LOTUS CAPITAL. TOMB OF YMERY. Vth dynasty. (L.D. ii, 52.)
50. LOTUS CAPITAL. JEWELLERY OF SENUSERT II.
51. LOTUS SEED VESSEL; OVARY, SIDE AND TOP VIEW.

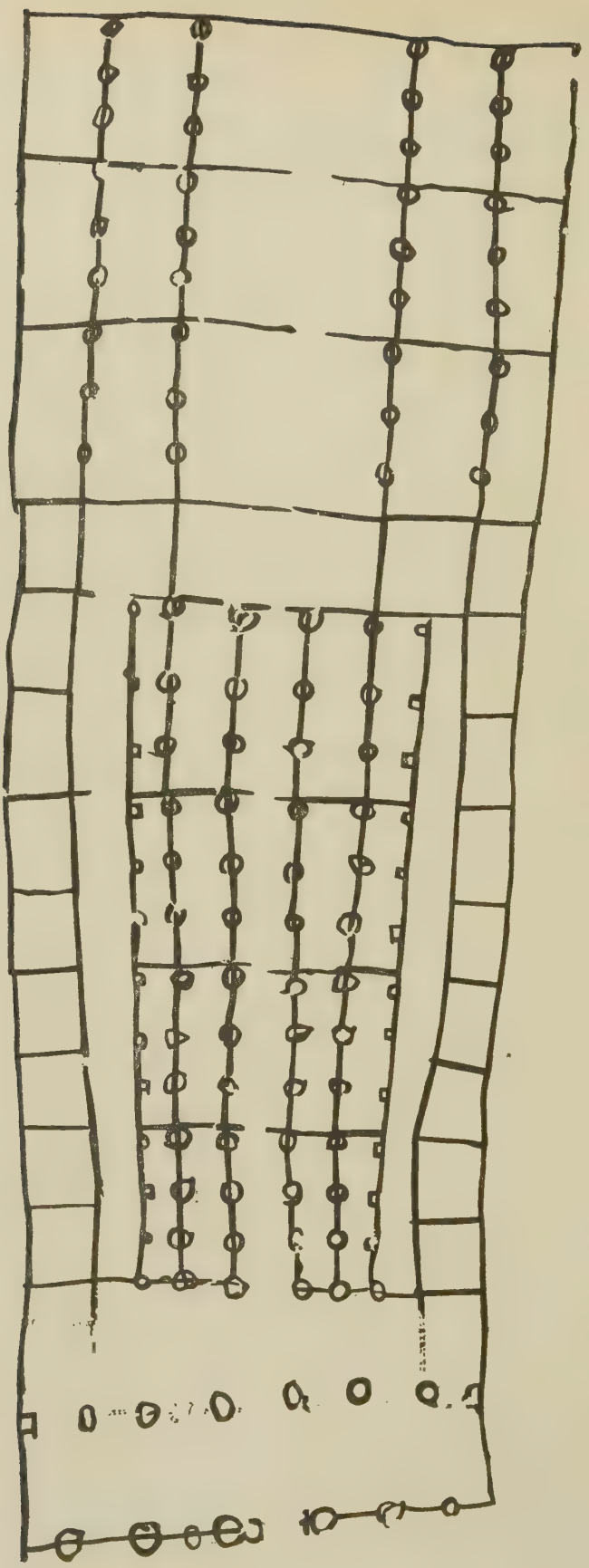
The last is from a bracelet of the tomb of Zer; it has twenty-one divisions, suggesting the sixteen divisions of *N. rubra* of India. No Egyptian lotus has more than eight divisions.

AN ARCHITECTURAL SKETCH AT SHEIKH SAID.

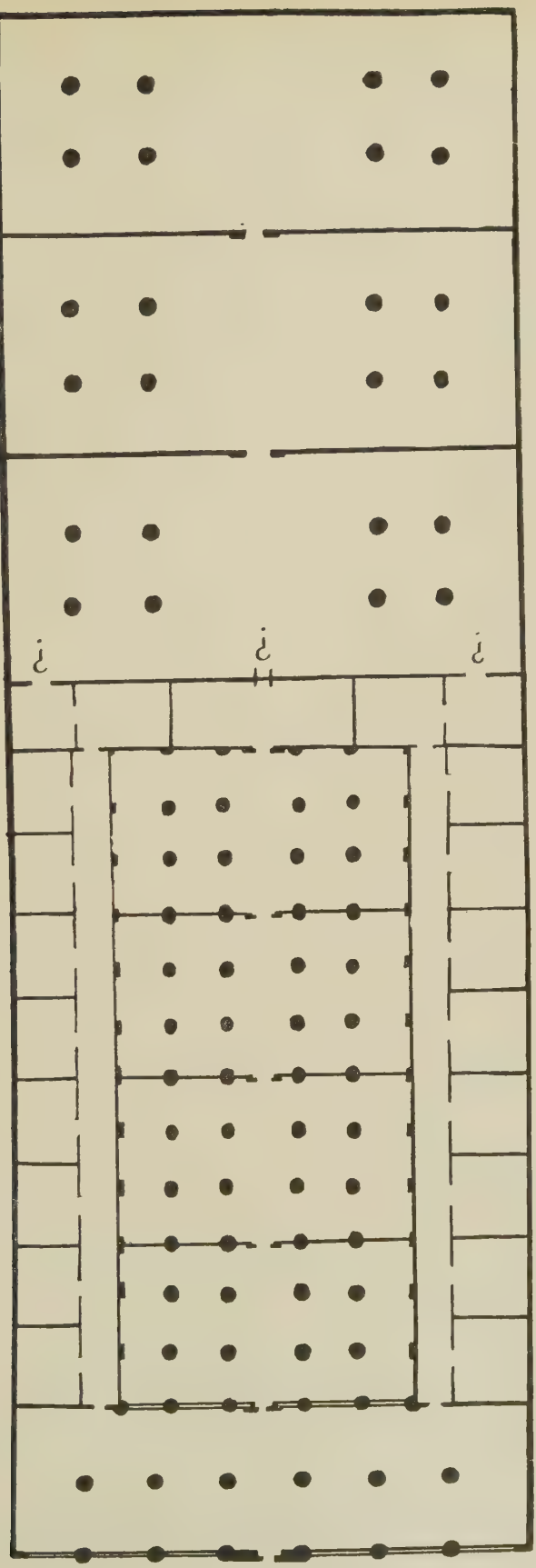
In Prof. Petrie's *Tell el-Amarna*, p. 19, there is notice of a plan seen by Prof. Sayce on the walls of a quarry at Sheikh Said, and a rough reproduction of the same on Pl. XXXVII. The supposition, however, that the sketch had been destroyed by 1885 is incorrect, though that may well be the case by now. In 1903 I saw and traced it, and now reproduce it here. The original was drawn without much care in red ink, on the very rough surface of the north side of a pillar of rock, at the north end of a subterranean quarry just downstream from the tomb of the Sheikh Said (*Arch. Report, E.E.F.*, 1892–3, p. 10; *Tombs of Sheikh Said*, p. 6). I was not able to assign any date to the quarry or to the neighbouring tombs, though the latter gave the impression of being late in date, and to my knowledge there are burials of the Roman Period just above them. On the ceiling of the quarry, divisions (for piece-work?) have been marked, also in red ink. The plan was therefore probably made by the overseer or scribe of the quarrymen; for, from the simplicity of the design, and its impracticability in some details, it does not seem to be the work of an architect, but either the idly drawn picture of an imaginary building, or the memory of an actual temple or its ruins. A few of the lines are uncertain, as may be seen from the plate: and some faint and irregular lines have also been omitted as erroneous. In my tracing I have marked the entrance "river-end." It is therefore placed horizontally on the wall. It is sixty-two inches long and twenty-one inches high.

It is at once plain that the plan is not that of a projected quarry, but of a constructional building. The quarry is actually on the river bank, and its stone could therefore be transported easily to a distance. Still the most likely places for the use of the stone are Akhenaten's capital close by, if the quarry is as early as that; or Eshmunên (Hermopolis Magna) on the opposite bank if it is later. The town of Antinoë would probably derive its materials from the quarries of El-Bersheh.

The plan is evidently a rough one, and may have been meant by the overseer to give his men an idea of the arrangement of the rooms in the building for which the stone was destined, the doorways being for the most part omitted. The most puzzling feature is the series of party-walls, which are drawn consistently neither through the columns (screen-walls), nor midway between them, but just behind. It may be noticed in my *El-Amarna*, VI, Pl. XI, that the provision of a cornice to the dwarf-wall does throw the ground plan nearer the back than the centre of the columns. Screen walls are never used, I think, to divide up a large hall into bays; and in any case the similarly drawn line which divides this columnar hall or halls from the sanctuary (?), must represent a wall the full height of the building. But the result is that we have not only columns but also pilasters engaged in the party walls, and appearing on both sides of them. Though I have thus shown them in my interpretation of the plan, I do not believe they were so found in a real building, but that the arrangement is due to careless draughting. If these



ANCIENT SKETCH-PLAN OF BUILDING. Tell Amarna. 1 : 7.



PLAN RE-DRAWN IN MODERN STYLE.

walls are not screen walls, they must be dividing walls of full height, bisecting intercolumniation (of double length ?). The pilasters on the side walls which continue the transverse rows of columns are less needed there than on the party-walls where the engaged (?) columns are shown ; for we must postulate architraves which connect the columns longitudinally, while transverse architraves could be dispensed with.

If the plan be taken seriously, its interpretation is as follows : The front of the building is formed by a portico, two columns deep, and six in frontage, the exterior row being linked up by a screen-wall (as at Dendereh and Hermopolis), except in the middle, where one enters between heavy gate posts. Behind the portico the building consists of two parts, as the draughtsman's lines clearly show. The length of the fore part is divided into four equal rooms with four columns in each on either hand ; or, if the dividing walls are only screens, it forms a colonnaded hall of forty-eight columns, arranged in twelve rows of four each. The front wall towards the portico is formed by six columns, of which the centre four are engaged in a screening wall for part of their height, while the two outside ones abut on, or are engaged in, the side walls also. The longitudinal architraves carried by the columns of the three halls (or hall) are indicated, but no transverse beams, though the presence of pilasters on the side walls imply their existence (cf. *El-Amarna*, IV, Pl. XXXVIII ; V, Pls. VII, VIII).

At the back of these columned halls are three rooms ; a middle one, which must be the shrine, and two side ones, regarding which it is open to speculation whether they are entered from the corridor or the shrine. As the shrine appears to be closed in the rear (though the lines do not quite meet), it is probable that the rear division of the temple is entered through the corridor and these side chambers.

In the rear half of the temple there is much the same arrangement as in the fore half, except that the whole breadth is taken up by the columnar halls, and that no pilasters are shown. The division into three halls raises just the same difficulty as in the main building ; and the way in which the whole building is constructed, on a few lines which run across it from side to side and end to end, is opposed to any connection with actual architecture. It results here in an unequal intercolumniation (corrected in my interpreted plan). This rear part of the temple can hardly be roofed in the middle, the span being too great.

If we study the buildings in Akhetaten, the great temple (taking *El-Amarna*, I, Pls. XI, XII, as a guide) affords certain rough analogies, so that it is not impossible to think of our plan being a rough reproduction of one of the other temples which we know to have existed in the capital. The screen wall and the pilasters are peculiar and attractive features of several of the tombs, and the double colonnade in front marks a speciality of the temple. Other similarities are the series of side chapels or magazines, the halls or courts one behind the other and extending across the entire building, the temple divided clearly into two parts, and the absence of the usual deep shrine along the axis of the building. Unfortunately, we have no more means of checking the tomb-plans by the actual ruins than in the present case. The sketch here, though not impossibly the plan of a real building, and a sacred one, is very unlike the known Egyptian temple, late or early ; but then the architecture of Akhetaten seems to have been as unorthodox as its doctrines.

Unfortunately, too, we have to regret our ignorance of the buildings that Antinoë and Hermopolis contained. What we know of them from Denon's *Voyage*

dans la basse et la haute Égypte, Pl. 33, *Annales du Service*, VIII, p. 211, and elsewhere, does not encourage us to think that this sketch reflects the plan of a lost temple there. A greater value than I can claim for it now may yet attach itself to this sketch-plan, but at the least it has considerable human interest as showing in its originator a knowledge of architectural design and a measure of originality in conception.

N. de Garis Davies.

EGYPT AND MESOPOTAMIA.

THE whole question of the relations of early civilisation in Egypt has been re-opened by the publication of a new ivory-carving, which is the most important known for its historical purport. This is a knife handle, stated to have been found at Gebel el-'Arak opposite Nag Hamadi, purchased by M. Bénédite for the Louvre Museum in 1914, and now published by the learned Curator in the *Monuments et Mémoires* of the Académie des Inscriptions (Tom. XXII, fasc. 1). As that publication is not much seen in England, the author has kindly permitted the most important parts to appear in ANCIENT EGYPT.

M. Bénédite first describes the decorated handles of flint knives already known. These are: (1) an ivory handle from near Edfu, now at Brooklyn, with nine rows of animals on one side and ten on the other, altogether about 300 figures; (2) the ivory handle from near Sohag (published in *Naqadah*, LXXVII), with six rows of animals on each side, now at Oxford; (3) the handle covered with gold foil bearing figures punched on it, found at Gebel Tarif, now in Cairo; (4) the small handle with two serpents and rosettes on one side and a lion, lioness, and hedgehog on the other, at University College, the serpents on which are here figured. Beside these, there are some flint knives which, by the marks on them, have evidently had similar handles. All these flint knives are to the same style; they have been ground on the faces, and then one face flaked over with the most regular parallel ripple flaking. This is the finest style of flint work, belonging to about S.D. 60. The butts of the knives are not of the usual broad curve, but they are chipped down to a narrow wedge form, to fit into the ivory handles. On the new knife it is clear that the ivory was too narrow to agree with the full width of the blade, and the edge has been trimmed back for nearly half the length, so as to be about 0·2 inch narrower at the junction with the handle. This shows that the flint work was completed regardless of the handle, and adjusted later: such an adaptation might be a sign that the flint was already old when fitted to the handle. On the other hand, all four knives are of exactly the same work and period, and it is unlikely that several such should be the only flints fitted with handles if the work was not all of one period. The new knife is 6·4 inches long, and the handle 3·8 inches, or 10·2 inches over all in length. The flint is 2·2 inches wide; the ivory handle 1·7 inch wide. The photographs of the handles here given are double the actual size. On all the three large ivory handles there is in the middle of one side an ovoid boss—or a socket for such on the Oxford handle; this boss is pierced with a hole, and is evidently for a cord to sling from the girdle.

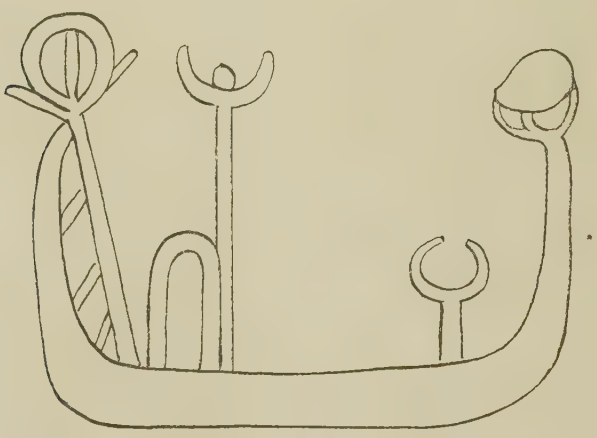
On one side of the handle (Fig. 1) there are two rows of fighting men; five with the hair cut short, and well armed, are subduing four men with long hair, and unarmed. They are all unclothed, only wearing the girdle and sheath so well known on prehistoric statuettes. In this respect they are earlier than the men of the hunting palette, who all wear waist cloths made with pleats. The arms used by the crop-heads are three *kherps* (thus shown to be a primitive weapon), one pear-shaped mace-head, and one flint knife held by the middle.

Below these are two ships of one kind and three of another kind, with four dead bodies between them, probably drowned. Two heads have disappeared in a

flake of the ivory; the remaining two are one with long hair, the other a crop-head. Another crop-head man holding a long rope, at the end of the upper boats, does

1. Gebel El-Arak Knife Handle. 2:1.
Combat Scenes on Land and Water.

not belong to this scene, but connects with the hunting of the ibex on the other side. The upper two boats are interpreted by M. Bénédite as having at the left a mast with a crutch for the yard, and the yard and sail slanting down from that into the forepart of the boat (see Fig. 3); next a round topped cabin and an ensign mast by it; near the stern a low crutch for the steering oar; and the stern rising up with a clutch at the top of it holding an object like the ensign of Letopolis. The lower three ships are of the papyrus boat type usual on the Nile in historic times; the cabin and posts on each ship differ from the type at Hierakonpolis (S.D. 63) and later. At the prow of each ship is an antelope head, which M. Bénédite compares to the gazelle head on the prow of the sacred boat of Seker. The relation of this carving to other remains will be noticed further on.



2. Black Ship. Hierakonpolis Tomb.
3. Ship on Ivory Handle of Knife.

On the other side of the handle, Fig. 4, the design is more surprising. At the top is an heroic figure in a long robe, contrasting with the naked fighters of the previous side. He holds two enormous massive lions, which are not of the early Egyptian type. He has on the head either a cap with a deep rolled brim, or else a disc of curly hair as on the early statues of Mesopotamia. His beard is large and full, so that in every respect he differs from both of the types of fighters. Below this group are two collared hunting hounds, each with a forepaw raised over the central boss. The spirit and finish of these figures is magnificent: they are the

finest and most natural of all, unsurpassed by any later work. Below these in the shadow on the left is a dorcas gazelle, on the right a beautiful figure of an ibex.

4. Gebel El-Arak Knife Handle. 2 : 1.
Hunting Scenes.

Below the boss is a lioness springing on an ox, and behind these an ibex or moufflon, apparently lassoed by the hind leg. At the base is a smaller ox, hunted by a lynx or serval, held in leash by the same hunter who appears to have lassoed the moufflon above. The head is lost, but the figure is like that of the hunter before the boat who has lassoed the smaller ibex; he is of the crop-head type. Having now noted the details we can take a view of the whole.

We are here made aware of a new school of high Art. There are few ancient lands that could rival this work, perhaps none that could surpass the spirit of the dogs and the ibex. Yet this must belong to an age before the Ist dynasty, as the style of the flint knife is of the best period of the second prehistoric Age; and the fighters show an earlier style than the hunters of the slate palettes. This Art is not Egyptian; it has no sort of parallel in any of the purely prehistoric work of Egypt. The general style of the fighting groups reminds us of more than one monument of early Mesopotamia. Above all the figure of the hero with lions is a purely Mesopotamian or Elamite type, familiar down to Persian times. Thus the affinities are of the Tigris rather than of the Nile. Yet, we must not assign it to either source. There is no exact parallel, in all the sculptures or cylinder-seals, for these groups. Their inspiration is from the Elamite school, but they were not foreign work brought from there. They are the product of an Oriental people inspired by Elam and the Tigris, and entering Egypt with their own traditions.

The general parallelism with the principles of the slate palettes should be taken into account. The palette has animals facing on either side of its central paint-well; so the handle has dogs facing on either side of its central boss. The hunters lasso the wild animals on both the palettes and the handle. There is a system of symmetry in the upper parts of both, and procession in one direction below. The palettes seem to be a later product of the same school of Art as the ivory handle; inferior to it in most cases, but in the later palettes about equal to the handle, though in a rather different style. The handle, in short, is the climax of one cycle of Art, which decayed to the work of the coarser handles and earliest palettes, and the finest palettes are the climax of the next cycle.

The slate palettes are classified by M. Bénédite according to their styles of work, in three periods. The latest is that of Narmer, with which he places the bull fragment of the Louvre, and that with the gazelles and palm. Before these is a rather vague class of the fragment with seven towns, the Louvre fragment-Renan, and the dwarf palette of the British Museum. The earliest of the three classes is the animal palette of Hierakonpolis, and the great hunting palette. The characteristics of the earliest class are the round drilled eye; the plain squared form of the torso; the knees not projecting, but with kneecaps outlined; rudimentary hands, without opposing thumbs; the squared foot; the folds of skin on the shoulders of animals; the continuation of mane hair on the underside of the lion; the comb-shaped claws of lions.

Some further detail may perhaps be added to these classes. The palette of Narmer is certainly later in work than any of the others. The Louvre bull fragment is of a wiry style, which precedes the best work in later Art, and though near the Narmer palette, it is probably at least a generation earlier. The giraffes and palm palette may be nearer Narmer, as it is of a smooth delicate style; M. Bénédite goes so far as "to prognosticate that the missing pieces of the upper part, which may some day be found, bore the name of the Scorpion king."

The great mace-heads are next considered, one with the name lost (University College), one of Narmer (Oxford), one of the Scorpion king (Oxford). The style

of these accords with that of the latest group of palettes, and therefore the two other groups must be older than the Scorpion king.

It is proposed that the origin of the palette form is from the early shield, which appears in the hieroglyph of Aha. This suggestion is unfortunate, as the palettes have always a form tapering to a rounded end or point below, while the shield is always fully square below. The central pan in each palette, which is so important that the whole design centres around it, would be entirely without meaning in a shield; there is never any suggestion of a handle connected with it. When we look at the long series of slate palettes throughout the prehistoric Age, we see the purpose of them unmistakably, by the hollow worn in grinding, and the remains of ground malachite frequently found upon them; beside the general association with a brown flint pebble used to crush the paint, the pebble often having the green paint also upon it. The many instances of green paint around the eyes on prehistoric figures, on the early sculptures (Sekerkhobau and others), and on the early mummy from Meydum, conclusively prove the purpose of the packets of malachite generally found in the graves, and the palette and pebble used to grind it. The *uaz* green malachite paint appears in the early lists of tomb offerings.

Now these paint palettes are found of the triangular form, with decoration along the flat top, like the palette of Narmer; also of the rounded rhomboid form, like the animal palette of Hierakonpolis. There is no break between the plain slate palette, the palette with single incised figures, with reliefs, and the same form with more figures. Even the latest and greatest of all retains the grinding pan for the colour. That a slate palette should be so decorated and become an historical monument is not a whit more surprising than the early wooden snuff box becoming a vehicle for the finest miniature painting and the richest jewellery, and even becoming an elaborate musical instrument. Among the preparations for royal festivals probably the correct painting of the eyes would have a place; for that a palette was wanted; it would be consecrated by the ceremony to remain in the temple; it would naturally receive some record of the great occasion of the festival, and this would expand into the historical documents which we know. Exactly in the same way, the labels tied on to the offerings stated the event of the year in which they were prepared and the name of the principal official, thus becoming historical records like the palettes. These remarks seem needful, as various writers do not appear to have considered the unbroken line of descent of the palettes, and the strong proofs of their purpose. Many other suggestions have been made for which there is no evidence, comparative or otherwise.

The comparisons of this new knife handle with other monuments are stated by M. Bénédite. These are:—

(*a*) No indication of ground line; no separation of registers; the men and animals are all in space. This is not seen on any of the Hierakonpolis carvings.

(*b*) Water is not represented; boats are in space, as on the prehistoric pottery and the painted tomb of Hierakonpolis of S.D. 63.

(*c*) The men wear only the girdle and sheath, while the hunters on the palette of the earliest group have the pleated kilt. The feet are also more rudimentary than those of the hunters.

(*d*) The mane hair of the lions extends under the body, as on the earliest palettes. [This suggests a cold-country lion needing hair to protect the body from snowy ground.] The shoulder folds of the skin are as on the earliest palettes.

(*e*) The boats are of the earliest forms, as on the prehistoric pottery. The parallel flaking of the flint knife belongs to the best part of the second prehistoric

Age, and is far superior to anything found in the tombs of the Ist dynasty, or at Hierakonpolis.

Lastly, M. Bénédite dwells on the obviously Mesopotamian style of the hero and lions, and the groups of fighters. The close-cropped or shaven heads recall those on the sculptures of Susa and Tello. Other traces remain of these influences, as the human figure between two rampant beasts on the prehistoric paintings of Hierakonpolis, and the figures between two serpo-leopards on the ivory carving of the Royal Age, also at Hierakonpolis. The type had entered Egypt as far back as S.D. 63. The conclusion is drawn that there had been gradual infiltration of successive immigrations from the East into Egypt, at least since the highest period of the second prehistoric Age, and that these culminated in the final conquest by the dynastic peoples.

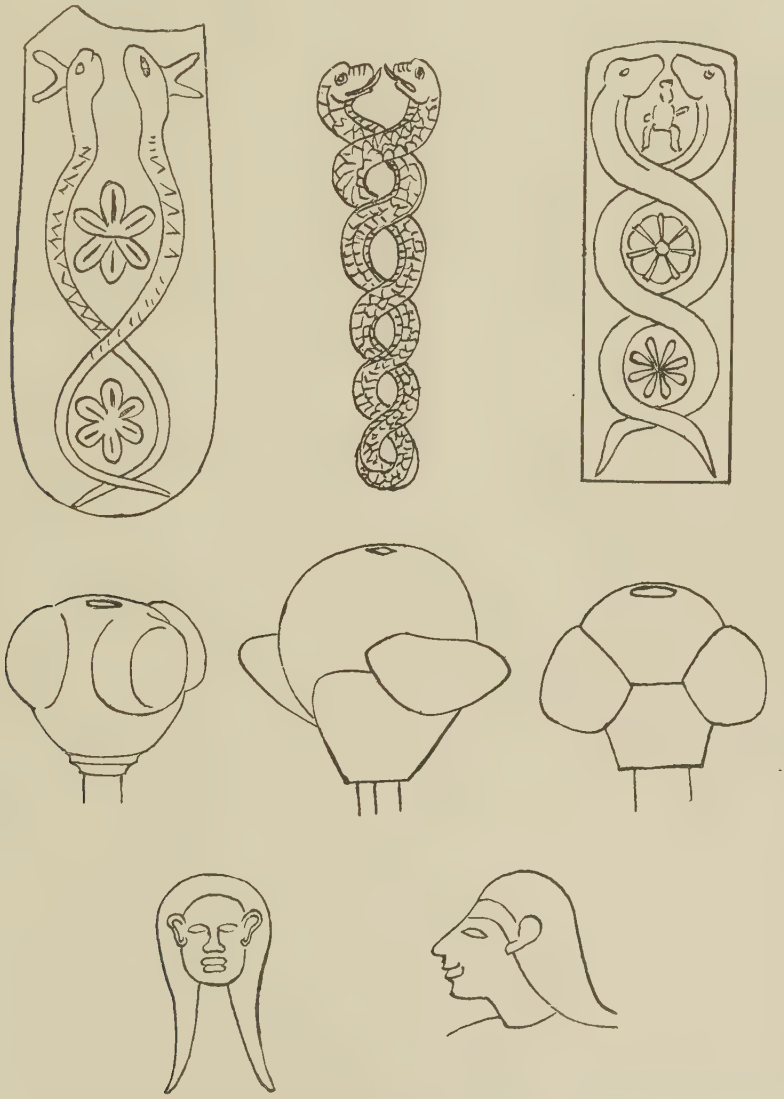
Having stated the fresh material and its discussion, there is some need of focussing all the details into their historical position; also taking account of some other facts bearing on the subject. Though what we know is very scanty and fragmentary, we can begin to see the continuity of the results; we need many more discoveries to establish a definite history, but a preliminary adjustment is the best way to show the meaning and importance of any fresh facts which might be overlooked. To know what to search for is the best way to promote discovery. The following outline must therefore be taken only as a means toward the history, and not as complete in any sense.

The broad question of the relative age of the civilisations of Egypt and Mesopotamia has been often canvassed. We now have a strong suggestion before us that advance was earlier on the Tigris than on the Nile. This encourages our considering a still more remote point. In the comparison of the flint-working ages in Europe and Egypt (ANCIENT EGYPT, 1915, pp. 59, 122), the results seemed to demonstrate the general uniformity of types between the East and West, at each of the successive ages. The characteristics of work in France and England appear likewise in Egypt, no matter what age is examined; this justifies further comparisons. The Solutrean types of France were shown to be closely reproduced in the so-called Fayum flints of Egypt. These were entirely absent from the series of prehistoric graves, while these graves contained the exact parallels to the Magadalenian flints which followed the Solutrean. Hence it appeared that the Fayum flints, found scattered on the desert, represented the earlier human work, before the series of prehistoric graves. Unhappily, they have been only the subject of native spoliation, and have never been collected on the ground by trained observers; hence we do not know how they occur, whether in definite settlements or if associated with pottery or other work.

Now in the low levels of the great mound of Susa, De Morgan found much of the first civilisation. The pottery is finely made and painted, as good or better than any pottery of prehistoric Egypt. With this pottery there were many worked flints (*Délégation en Perse, Mémoires*, XIII, p. 17), and these were clearly of the Solutrean types, like the Fayum flints of Egypt, especially the lance-shaped flints, rather thick, with finely notched edges. If the Solutrean civilisation extends at the same relative period from Britain to Egypt, it is only logical to suppose that the Persian examples are of the same general age. Thus, the fine pottery of Susa marks a civilisation a whole cycle earlier than the prehistoric graves of Egypt. The Orient started fine work at an earlier stage than the Mediterranean.

With this result before us there is good reason to expect that the East would maintain its lead over Egypt. The first continuous civilisation found in the

cemeteries of Egypt is mainly Algerian, S.D. 30 to 40. But as early as S.D. 38 a fresh influence came in, and dominated the land by S.D. 43; this, by its importations, was probably from the East. It has no products at all on the level of the carved knife-handle, nor leading to that, hence it was not from as far east as Mesopotamia or Susa. Its origin has been provisionally assigned to the Red Sea district, as it introduced hard-stone vases, and it had been in slight contact with Egypt throughout all the first civilisation, shown by rare occurrences of its peculiar pottery. Now we



ENTWINED SERPENTS.
5. PREHISTORIC EGYPT. 6. GUDEA VASE. 7. INDIA.

COMPOUND MACE-HEADS.
8. EARLIEST SUSA. 9, 10. PREHISTORIC EGYPT.
11, 12. HEADS OF SYRIANS OF ARTZ . . . . XIXth dynasty.

have learned from the new handle that, by the middle of this second civilisation, an entirely fresh art was coming into contact with Egypt. We must not conclude that the new people were actually living in Upper Egypt because this knife was found there. The knife may very possibly have been a spoil won in war from the

invaders. The scenes on it might not refer to Egypt at all. The papyrus boats might belong to the Delta, and be trading with Syria. We should not overlook the curious appearance of the conquered people, wearing heavy masses of hair coming down to a point on the shoulder. This type does not occur anywhere on the slate palettes ; and the only parallel for it is a Central Syrian people, Figs. 11, 12, of a city named Artz . . ., in the XIXth dynasty. If they were the same they must have been as far south as Palestine in the prehistoric Age, as the need of clothing was not felt. The Bedawy now fight naked, and so did the people of Southern Greece in Mykenaean times. There is thus a considerable suggestion that this might be a record of a Syrian war, though the scene seems, perhaps, more likely to have been in Egypt.

The strong Mesopotamian suggestions of the designs have, as we noted before, no exact parallels in the East. They seem the rather to belong to a people of Elamite or Tigrian origin and ideas, who had progressed on their own lines. The presence of shipping as an important factor would be against their having come to Egypt across the Arabian desert. The probability seems that they had branched off to some settlement in the Persian Gulf (such as the Bahreyn Islands) or on the South Arabian coast, and from their second home had brought its style and ideas into Egypt.

That the crop-headed people were the ancestors of the dynastic Egyptians seems sufficiently probable. Narmer and his people were similarly cropped or shaven ; and the three weapons here—the *kherp*, the mace, and the curved knife—were all used by the dynastic people.

We may now turn to further connections with the East. On the miniature knife in University College, the blade of which is wrought precisely like the other blades with ivory handles, there is on one side a group of two twined serpents and two rosettes (Fig. 5). The entwined serpents, much more elaborately treated, are on a vase of Gudea, in the Louvre (Fig. 6). In modern India the steles in honour of the *naga* serpents have the entwined serpents with rosettes between them (Fig. 7) as in the Egyptian form. To trace the sources of the Indian form would be difficult, and would take us but a small part of the way. The Egyptian example is probably between 8,000 and 9,000 years old, and the Indian we could not hope to trace for more than a third of this age at the utmost. It seems, however, clear that the idea is oriental rather than western, and this motive is therefore a further evidence of the oriental influence entering Egypt and introducing the carved ivory handles.

Another oriental connection is the knobbed stone mace-head from the earliest levels of Susa (Fig. 8). This is not unlike two compound mace-heads from early Egypt : Fig. 9 of hard white limestone, Fig. 10 of greenish-black steatite. These were bought in Upper Egypt, and almost certainly belong there ; they are now in University College.

The Elamite cylinder-seals found by De Morgan were noted by him as resembling the style of cylinder-seals of the beginning of the Ist dynasty. But in these, as in the other oriental resemblances, though the style is obviously alike, there is no exact parallel. Again we are led to the view of a settlement from Susa or the Tigris developing its own detail on the way to Egypt.

The signs of a cold country in the art are difficult to localise. The hero holding the lions is more like a Tatar prince, such as Kadphises on the coins, than like the struggling naked Gilgamesh. He cannot have been idealised in a hot country. The lions having the thick matted hair of the mane extending underneath

the whole body, were not seen crouching in burning sands but in snowdrifts, like the lion slain in a pit in a time of snow in Palestine (2 Sam. xxiii, 20), or the tigers of Japanese artists, wading in snow. All this cannot have been accreted between Elam and Egypt; it belongs to the Elamite mountains, and it shows that the ideas of this people were formed in such regions, and so well developed and fixed in their minds that the transit to a fresh centre, and on to Egypt, did not modify their mythology.

We now turn to the ships figured here. Those of the lowest line on the handle have the curved body so marked in the papyrus boats, both in small Egyptian paintings and in the scenes of boat building. This is also the usual type of the boats in the painted tomb of Hierakonpolis, which is co-eval with the handle. It must be accepted here as the Nile boat, though its arrangement of cabin and fittings do not quite agree with the Hierakonpolis painting. Probably they are respectively the Delta and Upper Egyptian forms. About the other line of boats, with raised prow and stern, there is much more question. The Hierakonpolis tomb shows the fighting of two peoples, red and black, and two types of boat coloured red and black, doubtless as belonging to the different peoples. The red man is more numerous, he is victorious, and the boats are red excepting one. Hence the red man and red boat of the papyrus type (on the lower line on the handle) is doubtless the dominant race of Egypt at that time, the second prehistoric civilisation. The black man and the black boat, Fig. 2, are the invaders. The black boat of the painting is of the same type as the upper boats of the handle, Fig. 3. The high raised prow, and the round topped cabin, are opposite to the Egyptian type. We are thus led to take the black men of the Hierakonpolis tomb scene as being the conquering people of the knife handle. In accord with this the boat represented on the palette of Narmer has a raised prow and stern, similar to the boats on the knife handle. The same kind of boats, turned up high at both ends, were used by Mediterranean people in the war against Ramessu III; on a small scale they are familiar now in the same region.

The hunting scene shows that the domestication of animals was advanced. The collared hunting dog, with ears pricked forward and a full chest, seems like a well-established type, far removed from primitive wolf or jackal. The serval or lynx is a well fed and muscular animal, also far removed from the wild prowler, and evidently accustomed to the leash.

After this grand handle at the middle of the second prehistoric civilisation, there are the two other handles of a decadent style, with long rows of animals. Yet, as they also have finely wrought flint blades, they cannot be put far from the best handle. They probably mark the imitation in Egypt of the foreign work which we have been considering.

It is, however, this foreign work which is the parent of the slate palettes; they are distinctly the product of the dynastic people in contrast to the native style.

The conclusion of M. Bénédite that there had been a gradual infiltration of the dynastic people, during the second prehistoric Age before thè dynastic conquest, is exactly in accord with the results of the anatomical measurements at Tarkhan. The length of the bones were grouped in five periods: A, the early 2nd civilisation, 43–69 S.D.; B, the late 2nd civilisation, 70–77 S.D.; C, the Tarkhan majority, 77–82 S.D.; D, the Tarkhan minority, believed to be dynastic in race; E, the VI–XIIth dynasty people, showing to what type the Egyptian settled down.

On taking the various long bones, which were found to give clearer results than other parts, the leg bones together give in both male and female a continuous

reduction in the successive classes A, B, C, D, and then an expansion in the later period E back to the size of A. This shows that a continuous cause was acting to disturb the natural climatic type, but that after many centuries the climatic type reasserted itself, and reproduced the original dimension. In the arm bones the numbers of examples are so few—half a dozen or less—in some periods, that the complete progress of change is less clear. Taking the whole arm length the order is A, B, C, D, gradually decreasing, and then a recovery in later times of the dimension B. The humerus alone decreases in the male A, C, D, and returns to A; in the female A, B, D, returning to B. The radius in the male decreased A, C, D, and returns later to between A and C; in the female it decreased B, C, D, and returned to between C and D.

The actual changes in the total leg bones are a diminution of 7 per cent., and a return of $5\frac{1}{2}$ per cent. in the male; in the female a reduction of $2\frac{1}{2}$ per cent., and a return to the earlier dimensions. In the total arm bones a reduction of 11 per cent., and later a lengthening of half that amount. The changes are thus large and unmistakable, corresponding to several inches in the stature. This result was worked out, and fully stated in *Tarkhan* II, two years before the appearance of the conclusions drawn from the artistic work of the knife handles. The grounds for this historical result are therefore quite independent. It may be noted that it is in accord with the history of later Eastern invasions; the Semites were coming into Egypt under the XIIth dynasty, and increasingly till the Hyksos conquest, and the Arabs were coming in under the Romans until the Arab conquest.

To sum up then, the general presumptions as the case now stands are :—

That the Elamite civilisation developed in the Solutrean Age, a whole cycle before the Egyptian development in the Magdalenian Age.

That a mountain people there had a fixed mythology and ideas with a developed art, far in advance of Egypt.

That these people developed further in some centre between Susa and Egypt, and thence moved on to Egypt. They were shaven or close-cropped, like the Sumerians; and they used high-prowed boats. Other eastern tokens arriving with them are the entwined serpents and rosettes, and the compound mace-heads.

These people may have fought with long-haired Syrians, and the handle be in commemoration of that conflict; possibly it was captured later and taken to Upper Egypt.

These crop-headed people are—or are akin to—the black men on the Hierakonpolis tomb.

They are the ancestors of the makers of the slate palettes, of Narmer and his people, and the founders of dynastic art.

They were invading Egypt early in the second prehistoric civilisation, and continued to come in greater numbers than they could be assimilated by the climatic influences; they were about three or four inches shorter than the Egyptians, and gradually shortened the stature of the population, which later almost regained its former size.

Gradually, step by step, we are seeing more of this rise of the earliest civilisation of the Mediterranean; our progress may be slow, but we see from the present discovery how much a single object may guide us. When we look back a quarter of a century to the time when we knew of nothing certain before Seneferu, and Mena was written down as a myth, we may well hope to understand much more in the future.

W. M. Flinders Petrie.

PERIODICALS.

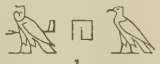
Annals of Archaeology and Anthropology. Vol. VII, Nos. 3–4. July, 1916. 69 pp., 14 plates. Liverpool Institute of Archaeology.

[The previous half of this volume appeared just before the war, and was summarised in ANCIENT EGYPT, 1914, p. 171. After two years the second half appears with a sad notification, that, owing to prevailing conditions, a temporary suspension of the publication is unavoidable. This is not surprising considering the amount of war work undertaken by the editor, as well as by many contributors. It is not the less a sorry sight for a journal to be eclipsed, the more so as this number is better than usual. We may find everything eclipsed beyond bare sustenance before the expulsion of the Hyksos takes place.]

SAYCE, A. H.—*The Stela of Amen-renas.* This is a translation and discussion of the great stele of Meroë, dating from the early Roman Period and stating not only current events, but also historical references to the early Ethiopian kingdom. The translation given by Prof. Sayce is interlinear; as there are many omitted and doubtful words, and no clear sentences, it is difficult to grasp the general ideas of it. We shall therefore attempt a summary of it here for convenience of reference, always remembering that the first attempt at translating a long text in a script and language but little understood must be only tentative.

The strongly marked female line of the Ethiopian succession is known by the genealogy of a line of eight queens on the stele of Aspaluta; each of these bore a cartouche as mistress of Kush, and high-priestess of Napata, a system copied in the cartouches of the northern queens of the Ethiopians at Thebes, from Shepenapt I to Gerarheni. This appears on the stele of Meroë which begins in the queen's name and goes on to "her deputy-heir, prince, deputy-heir of the queen, hereditary king of Roman Kush, hereditary king of the frontier of Egypt and Etbai." The same formula of titles is repeated for other kings. The first paragraph records the capture of 12 men and 115 women by Imla, son of Aginirherhe, who was the king under Queen Amenrenas. The second relates the capture of 100 men and 107 women serfs of the god Hapi of Biggeh at the First Cataract, "together with their god Yika, god of the land of Shesh" by Erhetok (?) for his mother, Queen Arbel. The third raid was of 55 (?) men and 253 (?) women belonging to Yika of Mam, a region around Derr, captured by Ipiali descendant of Yesbe. "Amenhetep, in old time of Meroë . . . lord of Korti, director of the singers for the priests (?), lord of . . . who were in neighbouring territories, lord of the Medi of Uke (?), who was in the land of Thabre (north of Khartum), a Kushite from . . . , lord of the princes in the adjoining land of Uebar, from among the hereditary princes of the race (?) of Irhi, the princess of old, the mistress of the women and men in war (?) captured, viceroy of the ruler in the land of Aton (Sesibi) the Egyptian of the West, a Meroite godborn Teie; Irhi was . . . . of women and men as follows, 3,400." Then

follows a statement of spoil, 257 people. The syntax connecting the spoil with the previous account is very indistinct; but at least, if this rendering be accepted, there is here a reference to Amenhetep III in his position as ruler of Ethiopia, and a statement of his descent from a Princess Irhi, and apparently the tribe of Irhi is stated at 3,400 people. There would be nothing surprising in an Ethiopian queen being an ancestress of the black Aohmes Nefertari, and hence of Amenhetep III; such a connection would be cherished in Ethiopia.

Then follows a statement of the family of King Aginirherhe who set up the stele: "Aginirherhe, the royal, the deputy (of the queen), the lord of deputies, chief musician of Amen of Thebes, prophet of those (ancestors) of Amen's land who were chief musicians, deputies, lords, lovers (?) of his house (?), who have been kings of Napata since Mahartosen and (?) Amenarres." Here the descent of the kings of Napata is said to be from the earlier kings Mahartosen and Amenarres. This strongly reminds us of Usertesen and Amenemhat as founders of Ethiopian civilisation.  is used for a valiant man in the XIXth dynasty; what if this were a loan word brought from the south by the XVIIth dynasty, and used as the Ethiopian for *user?* Following this is the parentage of Aginirherhe from a king of the same titles "from among the princes of the race of Irhi the princess of old." Much else can hardly be reduced to connected sense, but it ends with a dedication of 252 (serfs?) to Osiris-Hapi of Biggeh.

The second great stela of Meroë is much defaced, but on it is a mention again of the ancestor-princess Irhi; also of Queen Teie. The general result is that the record was kept of Amenhetep III and Queen Thyi as great rulers in Ethiopia; that the XVII–XVIIIth dynasties had one of the Ethiopian queens as an ancestress; and perhaps the foundation of the kingdom was taken back to the great kings of the XIIth dynasty who conquered and governed the Sudan.

PEET, T. E.—*A Mortuary Contract of the XIth Egyptian dynasty.* A stele in the British Museum of a noble, Antef, son of Mayt, gives a briefer form of a contract for offerings, which is so well known in the long inscription of Hepzefa at Asyut. Mr. Peet states that the source of this stele seems to be unknown; in the official *Guide* (p. 38) it is stated to be from Qurneh. The stele is of a usual type, the noble standing, and his steward on a smaller scale below. The titles are the usual ones of a great noble, and to them are added a list of personal virtues, as often was done in the Middle Kingdom. "I was one firm of foot, persevering of plan, wise, clever, ... of heart, one who fed the elders, who buried the aged, who gave to the children with his own fingers." In the article there is a proposal for a conjectural emendation to avoid the phrase "feeding the *uru*"; but it seems evident that the *uru* are those who are great in years, not in wealth. Another notable phrase is: "both of what my own might gained and of what Nebhepetra (Mentuhetep) gained for me." This reflects the age of civil war in Egypt, the noble fighting on his own account, and also fighting under the king and being rewarded.

A list of offerings follows "which the king gives to Osiris," that is food-rents of the king allocated to the service of the gods and of the dead. These were in some cases not merely a pious expression, as "thousands of oxen," etc., but were specific endowments, such as "two *shens* cakes and two jugs of milk that are before the mouth of Ra himself."

Two contracts for the performance of funereal rites are then recorded,—contracts which were probably as little regarded as the provision for perpetual

masses for the founder's soul in the chapel of Henry VII, entirely abolished by his son. The first contract is with one Hekhtiu for libations and offering of *shens* bread and *iu* cakes, to the statue of Antef every day. The other was made with a priest Antef to perform service in the tomb, to read the liturgy at every monthly and half-monthly festival "in order that my name may be good and that my memory may exist." The payment for these services were twenty parcels of clothes to the daily priest, and ten parcels to the monthly priest, a man and woman servant to each, and the right of irrigation across the noble's fields. The use of the serfs would seem to have been the greater part of the value. The clothing seems to have been a single gift, while the serfs would apparently be a perpetual charge on the population of the noble's estate.

SELIGMAN, C. G.—*A Prehistoric Site in Northern Kordofan.* The site described here is about 170 miles south-west of Khartum. Here stand four large artificial mounds, nine to twelve feet high; they have evidently been much denuded. On trenching through these mounds three strata of human remains were prominent. At the bottom were bones of cattle, sheep, dog, and perhaps goat. In the mounds were much pottery, with stone, ivory and bone objects. The pottery bears a string-mat pattern, showing the basis on which the clay was beaten out. Such a mat pattern is usual now in Kordofan, but does not occur in Nubia. Most of the incised patterns seem to be due to tooling with a comb which had about fifteen teeth. Most of the forms of pottery now used in Kordofan are the same as those in the mounds. Stone weapons are rare, only an arrowhead, an adze, and a fragment were found. Ivory was not common, only a few worked pieces and large beads. Bone lance heads are described, but they look as if they might rather be netting bones, which are so common in Egypt, for making fishing nets. The commonest objects are ostrich egg-shell beads. One bead of carnelian is like those of the XVIIIth dynasty.

From the mineralised state of the bones, and the decomposition of granite fragments, it appears that the mounds are of considerable age. The dust of which they are composed is identical with undisturbed country soil, and is not due to the washing down of brickwork. The accumulation of such a depth during human occupation would imply a long period. The conclusion that they are of Ptolemaic times, or earlier, seems quite probable; and it would be likely that they began with the extension of the Ethiopian kingdom about the XXVth dynasty.

WOOLLEY, C. LEONARD.—*A North Syrian Cemetery of the Persian Period.* The cemetery here described lies close to the Baghdad railway, to the north of Aleppo. It has been plundered out by the natives, and happily Mr. Woolley has gleaned some account of it. The classes of objects found are of considerable interest for the trade of the Persian Period, and as partly dating many things found in Egypt. So many are these connections that we give a dozen outlines here selected from the paper in order to help to date Egyptian antiquities. Most unfortunately the plate of small objects, which would be of the greatest interest, is missing from the publication, owing to Mr. Woolley's service abroad.

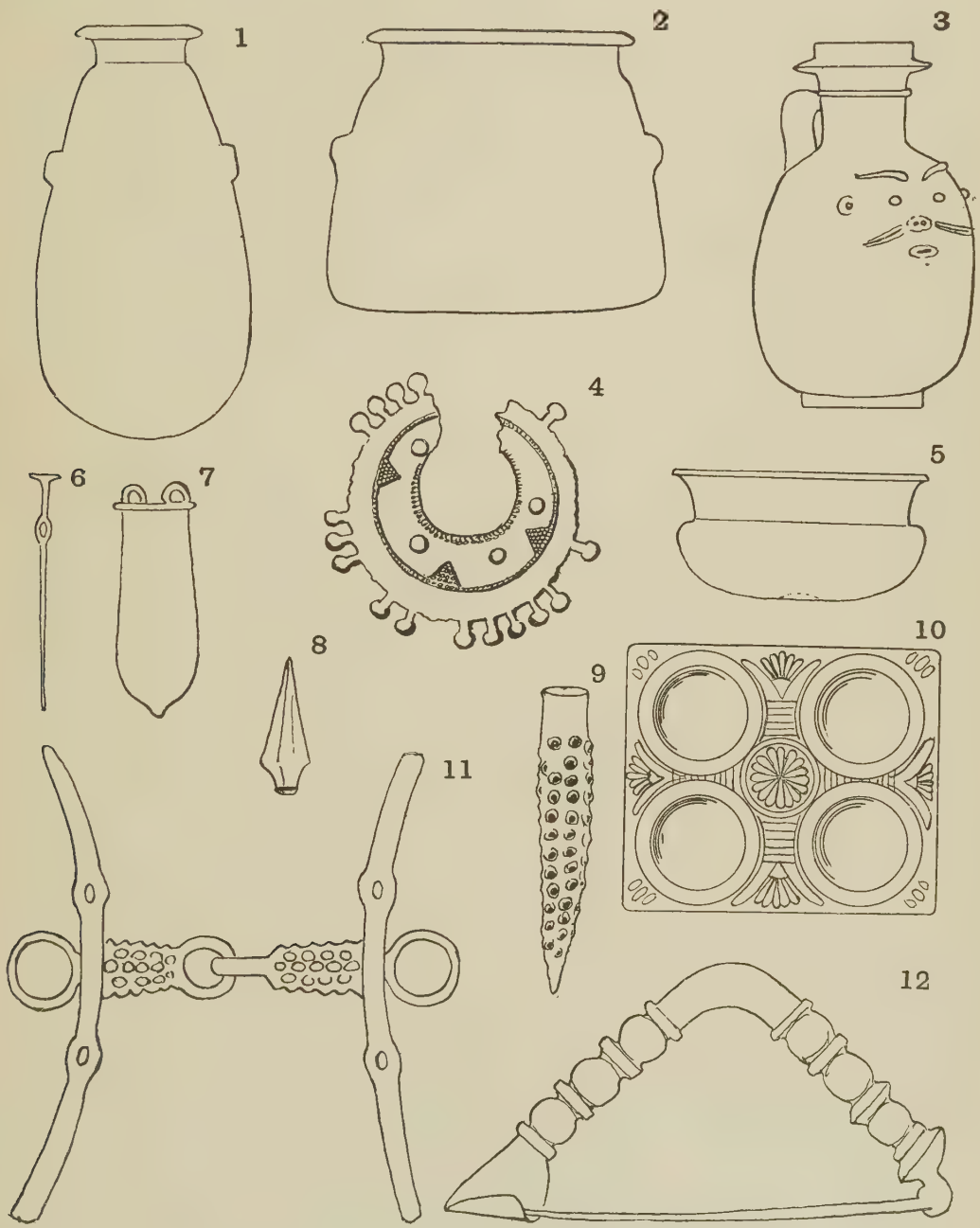
The cemetery is close to one of late Hittite Period, of which an account was quoted in ANCIENT EGYPT, 1914, pp. 173–4. As regards the date of it, the presence of Attic vases and coins of the fifth century B.C. (early rather than late) give one fixed point. Earlier than that it is noted that there are none of the things which were usual in Carchemish or its cemetery, which is believed to have come to

an end in 605 B.C. Nor, on the other hand, is there anything of the Hellenistic Age, 300 B.C. and onward. One closely dated object must have been old at the time of burial; this is the scarab of Menkara the vassal of Shabaka, 715–707 B.C. This scarab is ascribed by Mr. Woolley to re-issues of early kings by "Tirhaka and his successors." But we know that Menkara was a king reigning about this time, as there is a late papyrus of his son in the Parma Museum, and a cylinder with the names of Shabaka and Menkara shows his position. Another early suggestion is given by the resemblance of the graves and contents to those found at Gezer which are attributed to the ninth or eighth century B.C. It seems that we cannot get closer than dating the cemetery between 650 and 450 B.C. The village of Deve Huyuk close by evidently continued into the Roman Age, by the inscribed stones reported; one of these appears, by the illustration, to bear the date 449, probably of the Seleucidan era, that is A.D. 138.

Referring now to the figures given here (which bear no relation to each other in scale), Fig. 1 is a well known form, like the large alabastra which were smashed and buried in the palace of Apries, probably at 525 B.C.; about 600–550 B.C. would be a likely date. Fig. 2, of alabaster, is a clumsy form descended from the XIXth dynasty, but the futile handles on it show that it belongs to the XXVIth dynasty. Fig. 3 is stated to be an imitation of Egyptian pottery; but exactly the same are known in Egypt, and it was doubtless imported to Syria like the alabaster vases. Fig. 4 is a silver earring with radiating balls, a type which is stated to extend to Ephesos. This also occurs in Egypt. The pattern of a triangular pile of minute globules is frequent in the XXVIth dynasty. Fig. 5 is one of the various forms of bronze bowls, which are fairly common; this is more like a usual Egyptian type, others in Syria are flatter, or have godroons like the silver vases from Mendes, or are plain hemispherical or open bowls. The cylinder pot of bronze is also found, which is probably a measure as in Egypt. Fig. 6, the pierced toggle pin, is stated to be widely spread in Syria and Mesopotamia. It is also found in Egypt in the XVIIIth dynasty, doubtless imported from Asia. Fig. 7 is the common form of situla in Egypt; it was found with a godrooned bowl. The Egyptian situlae are usually of about the XXIIIrd–XXVth dynasties. Fig. 8 is the three-bladed Scythian arrowhead which appears to be unknown in Egypt until the great Scythian invasion of Syria in 624 B.C. Fig. 9 is like the graters of the XVIIIth dynasty. It is suggested that it might otherwise have been a strainer attached to a syphon tube. Similar cones are also of Roman Age in the Sudan. Fig. 10 is an alabaster slab with shallow saucers in it, divided by a lotus pattern of Assyrian style. Such modified lotus is often seen in Egypt, and usually supposed to be of the Persian Age. Fig. 11 is a horse bit with curved side bars like those from Georgia, and figured on the Assyrian sculptures. The Georgian bits have not the spiked cross-bit, nor have the Egyptian; but this type is stated to be identical with some Scythian bits. Fig. 12 is one of a class of similar fibulae common in this Syrian cemetery, and said to be like others of Cyprus, Asia Minor and South Russia, 1200–600 B.C. This was found with the Menkara scarab of about 700 B.C. It is almost like a fibula found at Yehudiyeh (*Hyksos and Israelite Cities*, XXA), and there supposed to be of the XXVIth dynasty.

Next may be noted various other objects not figured here. Mirrors were usual, apparently of cast bronze, with a long tang; they are almost circular, but slightly drawn down to the handle, a form of about 700 B.C., the entirely circular form belonging to 500 B.C. and onward. This, therefore, points to the earlier date for the cemetery. Shallow pans, much like mirrors in outline but much hollowed

and wider in the handle, are found in this cemetery; such were made in Egypt from the XVIIIth to the XXVIth dynasty. Iron swords three feet long are quite un-Egyptian, but are probably like the sword of the Persian Age found in the palace of Apries (*Memphis* III, xxxviii). Bracelets and anklets of bronze were



Objects from a North Syrian Cemetery, 650–450 B.C.

common, with slightly cut dogs' heads or snake heads on the ends. Such are stated to be also Scythian. Thick bracelets and anklets in Egypt have similar heads, and also fish, cut on the ends; their age has been hitherto unknown. There were many glazed amulets of Egyptian gods of the usual late style; but the glazed

pottery seems to be entirely Syrian. Many of the variegated glass jug vases were found, of the late style like the so-called Cumean glass, of about 800–600 B.C. It was mainly because of the demand for these by dealers, that the plundering of the cemetery took place. Of purely Asiatic style may be noted the chapes of swords, with what is stated to be the head of a ram, but which looks more like a degradation of two elephants' heads; also many conical seals with late Mesopotamian designs, as a figure sacrificing or praying to the Moon-god.

Altogether, this cemetery shows the great mixture that was going on through the eastern world about 600 B.C. The Scythian movements driving much northern work down; the Egyptian trade and supremacy in manufactures leading alabaster, bronze and pottery northward to the top of Syria; the Persian domination of Asia Minor and Egypt bringing fashions in from the East; the pervasive Greek mercenary and trader insinuating his style from the West. It will be most desirable to publish all these things in groups on an adequate scale, and this discovery lifts a corner of the veil from all the mass of archaeology which awaits us when civilised powers shall hold Syria and the East.

Bulletin de l'Institut Égyptien. 1915.

Deux Clepsydras Antiques. DARESSY, G. (*Bull. Inst. Egypt*, V, ix, 1915).

In this Paper a full account is given of two clepsydra vessels in the Cairo Museum, which were to be filled with water, and the lapse of time read off on graduations inside as the fluid dropped out. There were various fancy devices in the classical times for indicating the level by floats; whether such were used in these instances is immaterial, as the graduations inside show decisively how they were to be read.

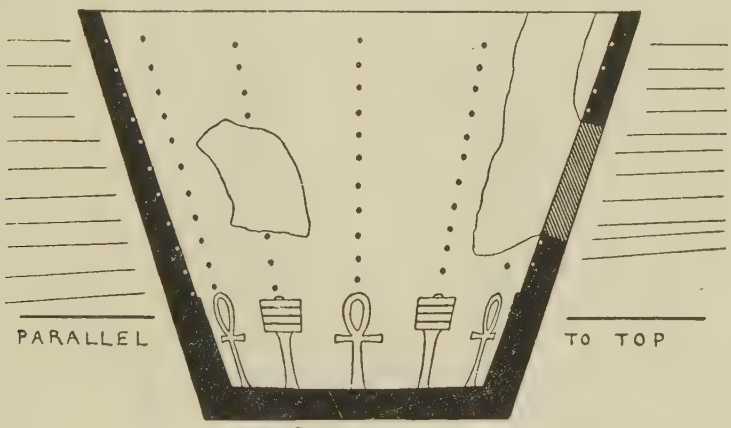
Both vessels alike have twelve lines down the inside from top to bottom; and, as in one case, they have the names of the twelve months placed over them respectively, it is clear that a different upright line was read each month. Further, there are twelve lines around the side in one, presumably corresponding to twelve hours, and eleven lines with the top edge, making twelve, in the other; and these lines, while parallel at the top, become increasingly tilted going toward the bottom. Each vessel has a dropping hole near the bottom. Such are the main features in common to both clepsydras.

The earlier vessel is the more precise and interesting. In the section here copied from M. Daressy, the mean line through each row of points has been drawn outside of the vessel to demonstrate the increasing tilt on descending in the vessel. The bowl itself is of alabaster, 14·6 inches high outside, 12·6 inside. Top diameter 18·9 and 17·4; base diameter 10·2 out, 8·5 inside. It has been broken up, anciently, but most of the pieces have been recovered in the clearance of the ruins of Karnak by M. Legrain. The vessel bears figures of gods and inscriptions, naming Amenhetep III; this dates the bowl to 1380 B.C., or within thirty years before that. The vertical lines and hour lines around are marked by small drill holes. The signs at the bottom shown here mean life and stability, they are often used decoratively, and have no connection with the measurement.

How are we to understand this variation in the level along with the month of reading? M. Daressy concludes that the variation was to allow of the intervals corresponding to the longer or shorter hours of the night. But on comparing the lengths with the actual length of the night, it is shown that the variation of the

long and short nights is nearly double the actual variation of the scales of summer and winter. We can go further by the marking of the names of the separate months. The first month was Thoth, and the largest scale here is of the month Hathor, beginning 17th September, and the shortest scale is of Pachons, which began 14th March in 1380 B.C. Now this is contrary to the theory, as the maximum and minimum are not at the solstices, as they should be. Evidently we must look elsewhere for an explanation.

A matter often overlooked—even in canal discharges—is the large variation in the viscosity of water with temperature. Much more will flow through a pipe as the temperature is raised ; at boiling point the flow is six times the amount that it is when near freezing. If this difference in the greater length of the summer scale were to compensate for the quicker flow of the water, it would imply in the Karnak clepsydra a variation of 15 : 17 in the rate. At about 70° Fahr., the mean temperature of Egypt, this would imply a change of temperature of about 9° Fahr. between summer and winter. As these clepsydra were probably placed in the inner chambers of very massively built temples, with walls many feet thick, and close to the ground, it is likely that the change with the seasons might not exceed this.



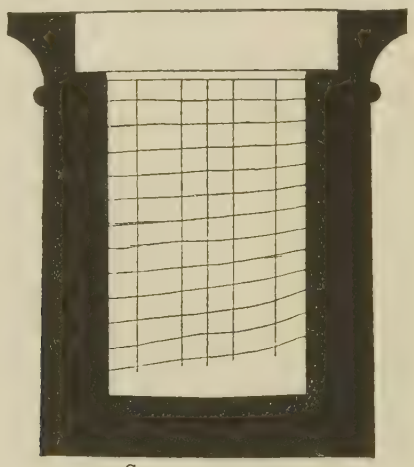
Section of the
Clepsydra of Amenhetep III. Karnak.

Further, the maximum is in the middle of September, and the minimum in the middle of March, and those would be about the times of highest and lowest temperature, delayed by the massive building, and the conduction of heat through the earth. Thus the compensation for the viscosity of water agrees with the amount and the time of the change of scale. Probably it was empirically noticed that the rate of flow varied in summer and winter, and the scales were made to compensate this.

The Egyptian had gone further than this. It will be seen that the bowl has very sloping sides, and M. Daressy remarks this as an evidence of the merely ornamental nature of the work, as it would contain much more water between the upper than between the lower divisions. He concludes, therefore, that this work was fanciful, and was rendered useless by reason of ignorance. It is precisely this form which renders it more exact than a cylindrical vessel. Fluid drops faster in proportion to the pressure ; when the clepsydra was full, it would drop nearly four times as fast as when the water had gone down to the lowest graduation. This change of rate the Egyptian tried to compensate by increasing the amount in the upper levels. Strictly, a parabolic outline is needed for a vessel with an equal

scale down it. This was nearly attained by taking a frustum of a cone and not carrying the scale to the bottom. The variation from a parabola over the part used would not be large. On testing this, the rate of dropping, when the water was at the top or bottom of the scale, would vary as 1 : 3·7, and the ratio of the areas or quantity of water at those levels is 1 : 2·6. Further, the scale is rather more open at the top than below, which would make the ratio of quantities 1 : 2·9. Thus the sloping form of the bowl and variation of graduation compensate more than three quarters of the error due to the variable head of water. As the flow averaged nine drops a second, it must have been a stream at the beginning, ending in rapid drops.

It appears then that by 1380 B.C., the clepsydra was mainly compensated, both for the changes of water level and for the changes of temperature. The knowledge of this was kept up in Egypt, as Athenaeus, of Naukratis, in the third century A.D., says that water "which is used in hourglasses does not make the hours in winter the same as those in summer, but longer, for the flow is slower on account of the increased density of the water" (II, 16).



Section of the Clepsydra of Edfu.

The second clepsydra is from Edfu, of apparently the Ptolemaic Age. It is a cylinder of hard limestone, with a cornice round the outside and an expansion of the cylinder at the top, probably to hold a lid. It is 14·9 inches high, 13·5 across at the top and 11·8 below. Inside, the graduated cylinder is 10·8 deep and 6·6 across. The vertical lines of the months are not equally spaced. The circumference seems to have been divided by halving into eighths; then two months on each side, at the maximum slope of the circular lines, have been subdivided. The effect would be to agree with a lengthening out of the mid-season period and a shortening of the hot and cold period. The difference between hot and cold season is rather greater than in the Karnak clepsydra, agreeing to a fluctuation from about 68° to 80° Fahr. There was thus the temperature compensation as in the earlier example; but being a cylinder, and having equal divisions, there was no compensation for the flow varying by the pressure. Owing to carrying down the divisions close to the bottom, this variation is the greater, and the flow at the beginning would be eighteen times quicker than at the end. It would be by drops, as they would average only two drops a second.

The monthly variation in the flow being then fully accounted for by the temperature compensation, it follows that the Egyptian used equal hours, and did

not lengthen or shorten them according to the seasons. This is what we might expect from the accurate astronomical observation of early date, proved by the precise agreement of the pyramids to the cardinal points. In this the Greek and Roman usage was more primitive, as they divided the day and night into twelve hours, of whatever length the season made them, as the Turk does at present. Hence adjustments were required to regulate the flow of clepsydras according to the length of the day, as described by Vitruvius in VIII, ix.

A point of Egyptian usage should be noted. Although Mesore was reckoned the first month of the year in the XIIth dynasty, yet by 1380 B.C. Thoth was the first month, as the third month on the clepsydra has the figure of Hathor, fixing that month to be hers. The Thoth year is, therefore, to be used in all reckonings of the XVIIIth dynasty, agreeing with its being more correct, astronomically, than the Mesore year from 1700 B.C. onward.

L'Eau dans l'Égypte Antique.—DARESSY, GEORGES. (*Mémoires de l'Institut Égyptien,* T. VIII.)

This Paper gives an account of the attention of the Egyptians to water supply. Regarding the sinking of the Delta there is quoted a Nilometer of Byzantine date near Kafr Dawar, the base of which was 1·055 metres below sea level, which proves a sinking of at least this amount in fifteen centuries. Maqrizi states that Lake Menzaleh was flooded by the sea in A.D. 554, that is, in the reign of Justinian. A translation is given of an Oasis stele of the XXIInd dynasty, recording the natural and artificial reservoirs made there, and a dispute as to ownership decided by oracle, to which sixteen witnesses added their names. Also a translation of another Nubian stele, of Ramessu II, concerning his orders to cut reservoirs on the road to the gold mines. It mentions that under Sety I they had sunk 120 cubits (200 feet) without reaching water, no light task through rock. His son succeeded in getting a supply, by only sinking a tenth of the distance.

Iron and Steel Institute. Autumn Meeting, 1916.

The Use of Meteoric Iron by Primitive Man.—ZIMMER, G. F. 8vo, 44 pp., 9 plates.

This Paper is a valuable and conclusive study regarding the early source of iron from meteors. Hitherto there has been a general impression that meteoric iron was not fit for immediate working, and that it was too rare to be practically used. Hence the sporadic appearances of iron, before regular smelting began, in 1200 B.C., have been attributed to native iron from rock sources.

The practical use of meteoric iron lingered among the Eskimo until the early travellers described them. Hans Egede in 1721, Hearne in 1772, and Sabine in 1818, found that rude knives of iron were in use, all of meteoric origin. It was often very economically used, with a backing of other material; in one case the back of bone had many little flakes of iron fitted into a groove. These bits of iron had been hammered off one of the great meteorites of Melville Bay in Greenland, which are supposed to have weighed 5,000 tons originally. The softer mass has been nearly half removed in scraps, as it is a tough fibrous iron, containing 8 per cent. of nickel. The scraps when broken away were hammered out cold between stones. At least two other sources of such iron were used by the Eskimo.

Similarly, meteoric iron was used in South America, near the mouth of Rio de la Plata and in Paraguay. The Aztecs, also, in Mexico had a small amount of iron which they prized above gold, and which they asserted to come from the sky. Of earlier times ornaments of nickeliferous iron are found in burial mounds of South-west Ohio, also meteoric masses hammered more or less into shape. These are supposed to have been obtained from the Brenham meteor in Kansas, which weighs nearly a ton, and is of very ductile iron. Averrhoes states that excellent swords were made from a meteor weighing 100 pounds which fell near Cordova in Spain.

A list of instances of meteoric iron having been wrought includes cases from Prussia (2), Bohemia, Hungary, Russia (2), India, Java, Senegal, South Africa (2), Australia (2), North America (26), and Chile (4), 43 in all. Some of these are only trials, but often the use of the iron has been on a large scale. In Africa the products include dishes, lance heads, rifle bullets, and hoes. In Java swords were made of it for the Sultan of Solo, and an artificial imitation was supplied to his subjects. Modern trials of various meteors are instructive. The metal is in such a different condition to the artificial iron that ordinary methods of working do not succeed. It is to this that the prejudice is due, that meteoric iron cannot be wrought. When rightly worked it was found to be harder than ordinary iron, but was not hardened by heating and quenching. This is to be expected, as hardening is due to carbon in iron. In other instances the iron is found to be brittle when very hot, though it can be forged cold or moderately heated. The strength of the iron after working is much the same as usual, and it bears being sharply bent. Some of the Cape iron is soft, but is elastic and hard after hammering cold, can be rolled out thinner than paper, and polishes well.

A list is given on eleven pages of 287 falls of meteorites, of which 250 are known to be malleable, 32 undetermined, and only 5 non-malleable. They vary from an ounce or two up to 50 tons, but mostly weigh about 20 pounds. Smaller masses generally become burnt up at a white heat in passing through the air; so probably the usual size in space is much less than those that are found. Many meteors when they reach the earth are by no means smooth masses which would defy the use of stone tools. The intense heat has liberated more fusible portions, or made any volatile ingredients blow the metal into holes, so that the fallen pieces, as illustrated in the Paper, are spongy or with irregular projections. In this way it is practicable to beat out or break off portions. Another source of manageable pieces is the breaking up of large masses by heat when falling, or a cloud of small pieces travelling together in space. Thus many falls are multiple, in some cases thousands of pieces amounting altogether to over a ton, or over 5,000 nodules from the size of a pea up to a pound weight. Thus the material was often in a form which could be easily worked by stone tools. Five pages are occupied with the various ancient accounts of the falls of meteorites, or of sacred stones which fell from heaven.

A most puzzling matter is the very unequal distribution of meteorites on the world. The rotation of the globe should expose every part of it equally to the showers passing through space. They should be equally distributed in every longitude, though scantier toward the poles if moving in the solar system, as they would pass more obliquely through the air, and so be much more dissipated by heat. Yet actually the distribution recorded is extremely unequal. To some extent this is in proportion to the population, as the record must depend on the closeness with which the ground is known. Those that fall on dense forest or

scrub will scarcely ever be found, whereas on cultivated land the chances of discovery are a thousand times greater. Another main factor is the using up of the obvious iron meteorites; and conversely the ignoring of stony meteors that are of no use. This may be the cause of this strange inequality,

In Eastern hemisphere, 79 iron, 299 stone.
In Western hemisphere, 182 iron, 74 stone.

It is impossible to suppose a selective action in falling, and so we are driven to suppose that the Old World iron falls have been largely used up, and the New World iron falls have attracted most attention because they could be used. If, for instance, the number of iron and of stone falls was the same, the distribution would show that three-quarters of the Old World iron was used up and disappeared, and two-thirds of the stone falls in the New World were ignored as not being obvious or attractive. The one state is due to being an old settled land, the other to being a new settled land. Yet such causes could not account for 23 falls of iron in Chile, not one in the neighbouring Peru, and only one in England; or for a dozen times as many in Germany as in France. All general conditions seem equal in such cases, and the great difference in recorded numbers has yet to be explained. The inequalities of stone and iron falls strongly suggest how largely meteors have been used as a source for iron, especially in earlier ages when the use of ores was much less available.

Now that the whole question of the early source of iron has been thus greatly cleared, we may look again at the Egyptian connections. The word *baă-ne-pet*, "*baă* of heaven," has of course always been a favourite argument for the use of meteoric iron. The original sense of *baă* is not clear, for of course the meaning iron is secondary. There are several such words. *Ba*-wood or palm is evidently a worn form of *bant* palm. *Baă* "to marvel, or merit," derives from *buăy* "marvellous," and *bua* "to praise." There seem to be two original roots of *baa*, a road and a loaf. From *baă* "a loaf of bread," is *ba* "offering bread"; and as we apply the terms for bread to other things, as a loaf of sugar, or of metal, or a cake of copper, so the Egyptian transferred his word for a loaf to copper or iron, or to a block of stone. Then as *metallum* in Latin and *metallon* in Greek was the name both of the mine and its product, so the Egyptian *baă* for stone or metal came to mean a quarry or mine. Thus there is exact analogy for the primitive word for loaf passing on to mean metal or stone, and then to the source of the metal. We maintain the word metal for all mined or quarried material when we speak of road-metal for stone. So *baă-ne-pet* means the stone or metal of heaven. The word then became transferred from metal iron to iron ore, the heavy haematite two-thirds the weight of metal; this is shown by statuettes being described as made of *baă-ne-pet*, and none are known of iron, but many occur of haematite.

We must not, however, conclude that the frequent use of meteoric iron proves that all sporadic iron in Egypt was from that source. Mr. Zimmer allows that the second earliest example—that from the Great Pyramid—was of terrestrial origin. If so, it was probably from some native iron, perhaps produced by reduction from basalt which contains 10 *per cent.* of metallic iron, and would be strongly reduced when flowing red hot over woods. The clearing up of the use of meteoric iron opens the prospect of its having been used in Egypt, but we need analyses in each case to settle whether the source was terrestrial or celestial.

NOTES AND NEWS.

As might be expected, there is little to report archaeologically from Egypt. There is, naturally, no British party out excavating, nor, indeed, is there from any European country; the Antiquities Department itself, like all other Government Departments, is denuded of all available men.

Meanwhile, the United States continue to excavate. Dr. Reisner has gone up to Nubia, where, no doubt, he will continue to unveil forgotten and unsuspected epochs in that country's civilisation. Mr. Fisher has returned to Denderah.

In Cairo, the work of re-arranging the Museum goes on slowly but surely under the direction of Mr. Quibell; as a matter of fact this is due to his individual efforts, which are occasionally supplemented by voluntary help. Recently, the assembling and classifying of the wooden coffins have been claiming attention.

Beyond this the opportunity is not neglected for sowing as widely as possible the good seed of Archaeology, which is offered by the presence of large numbers of soldiers—wounded and otherwise. Large parties are conducted round the Museum periodically, and though the majority may find it somewhat tiring, yet there are generally a few who show quite a keen interest. In the same spirit the lectures which are arranged at the various hospitals and convalescent homes include their proportion of Archaeology. Thus it may be hoped that after the war there will be found an increase in the number of those who realise that a science of Archaeology exists, and that it does not mean only senseless curiosities.

The same kind of teaching has been taken in hand by Mr. Wainwright with Young Egypt at the Tewfikieh School, where at present a very enthusiastic Archaeological Society meets once a week to enquire into the Past, and intends to make a series of visits to both the Antiquities and the Arab Museums, and to go excursions to those ancient sites and monuments available from Cairo. Moreover, it is thirsting to begin the study of hieroglyphs, for which it proposes to use Miss Murray's Elementary Egyptian Grammar. May good digestion wait on appetite!

Mr. Lawrence is still in Cairo in connection with the Intelligence Department. Report has it that the design of the new set of stamps for the Shereef of Mecca is at least in part due to him.

Some short time ago Mr. Hogarth was expected back again, and has no doubt arrived by now.

Prof. Myres has been heard of as leading an Odyssean life "somewhere in the Mediterranean."

M. Lacau—Sir Gaston Maspero's successor at the head of the Antiquities Department—is still at the War, as is M. Lefebvre, the Chief Inspector of Antiquities at Assiut. As Mr. Firth is in the Intelligence Department at Port Said, the work of inspecting all the Antiquities of Egypt devolves upon Mr. Edgar, whose own province of the Delta was already none too small.

One cannot but hope that the coming year will see the return to a more normal state of affairs in Archaeology as in the other walks of life.

The delays in the appearance of this Journal are necessarily due to the war conditions of all work in England. In the present number a coloured frontispiece is given instead of the usual two plates of portraits at the end.

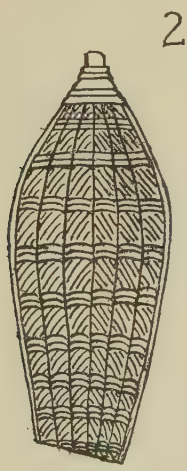
FIG 1. ANT, WEARING THE BUNDLE AMULET.

ANCIENT EGYPT.

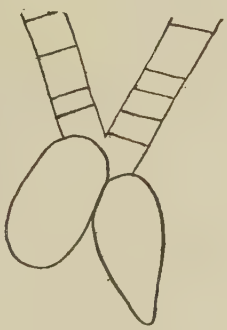
SOME PENDANT AMULETS.

THE usual neck ornament for both men and women throughout the historical period is a wide collar of beads. Occasionally, however, the men and boys wear, instead of the wide bead collar, a pendant hanging on a string on which beads are also threaded. Early examples show that the string was sufficiently short to allow the pendant to lie in the hollow at the base of the throat. In the Vth dynasty and later, the pendant swung on a level with the breast, or even as low as the waist. In the rare cases in which it was worn with the wide collar, it keeps its distinctive character as a separate ornament, the string on which it is slung being worn over or under the collar.

So far I have found but few instances of pendants being worn by women. With the exception of Ant (Frontispiece), the wife of Kagemne (Bissing, *Gemnikai*, I, Pl. 21), the daughters of Tehuti-hetep (Newberry, *El-Bersheh*, I, Pl. 29), the dancing-girl, Fig. 3 (Davies, *Deir el-Gebrawi*, II, Pl. 17), and a few others, the pendant at the neck appears to be a purely masculine adornment.



SHELL PENDANT
U.C.L.



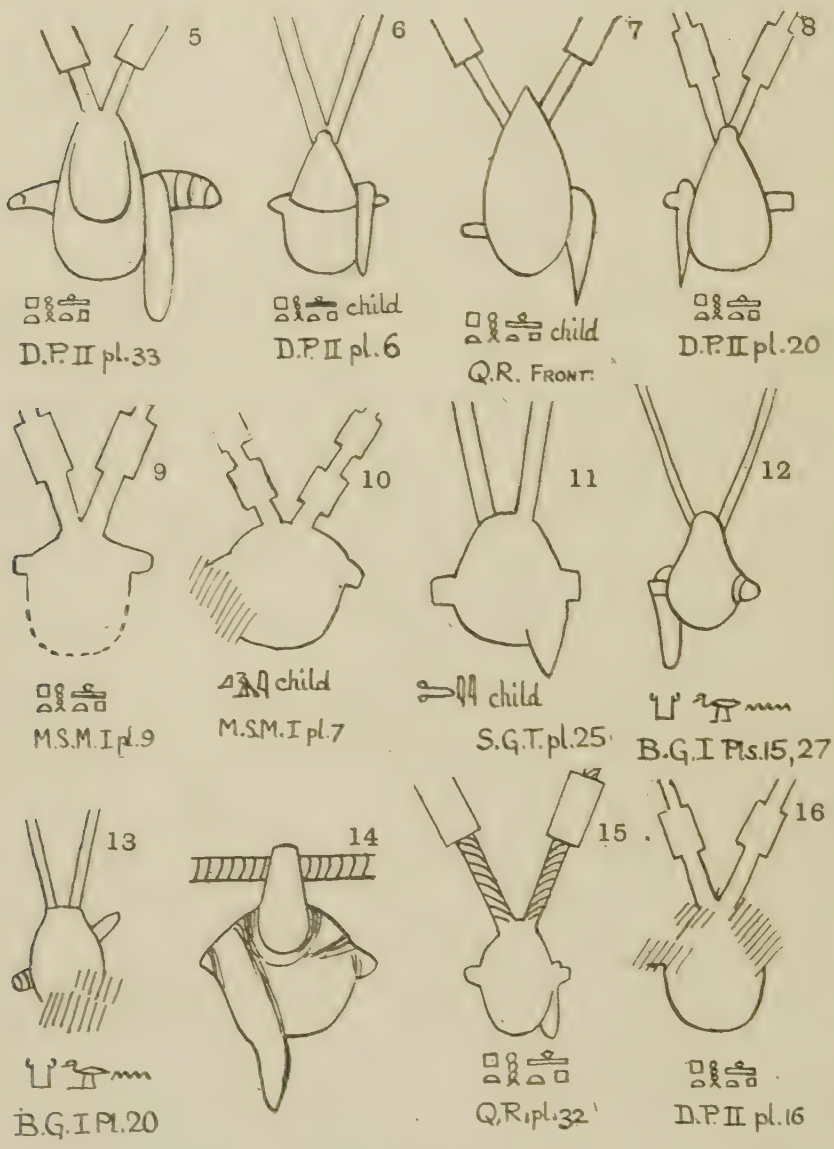
GIRL DANCING
D. el G. II pl. 17

L.S. Pl. LIII

I. The pendant worn by Ant, Fig. 1, is clearly an amulet, consisting of three separate objects or packets lashed together at intervals and forming a small bundle, which is slung on a string passing round the neck. Such bundle-amulets are known in all countries; their virtue lies in the contents of the packets, and these vary according to the specific object desired to be attained.

The carved shell pendant, Fig. 2, of the Prehistoric period, seems to represent a similar amulet. There are six bundles and the lashing is very elaborate.

II. The dancing girl's pendant, Fig. 3, is composed of two indeterminate objects. From the shape these might be fruits or nuts; but the colour of the oval one—blue—indicates something artificial. It is possible that they represent those hollow pear-shaped or round objects of blue-glazed ware sometimes found in the XIIth and XVIIIth dynasties. The dancer wears round her neck a wide band composed of horizontal stripes of different colours. This does not appear to be what we now call "ribbon," *i.e.*, a narrow woven strip of silk or other material with



a selvedge on each side. At first sight it looks like a strip of cloth cut to the required shape with the raw edges sewn down to prevent unravelling. But the detail in the drawing of Tehuti-hetep's daughter (*El-Bersheh*, I, Front.) shows that the band round the girl's head is of beadwork, of the same pattern as her bracelet; and as the band on which the pendant hangs is of the same design and colouring, one may conclude that it also is of beadwork.

The strange pendant, Fig. 4, appears to be the same as the dancing-girl's ornament; the description of the colouring is: "Le corps bleu; aux deux extrémités quatre perles (rouge, bleu, jaune, rouge), les attaches blanches" (Lacau, *Sarcophages*, p. 179).

III. The next class of pendant, Figs. 5–47, is found chiefly in the Old Kingdom, occasionally in the Middle Kingdom, and but rarely later. There are two forms of it, both equally early; in the one form there is only one oval object, in the other there are two. The best examples of the first forms are Figs. 5, 6, 35, 36. Of the second form, Fig. 28 is the clearest.

It is difficult to say what object is intended to be represented in these forms. Figs. 35 and 36 appear to represent some rounded object wrapped in cloth, of which one end hangs down. In Fig. 35 the whole is pierced with a spike-like object; in

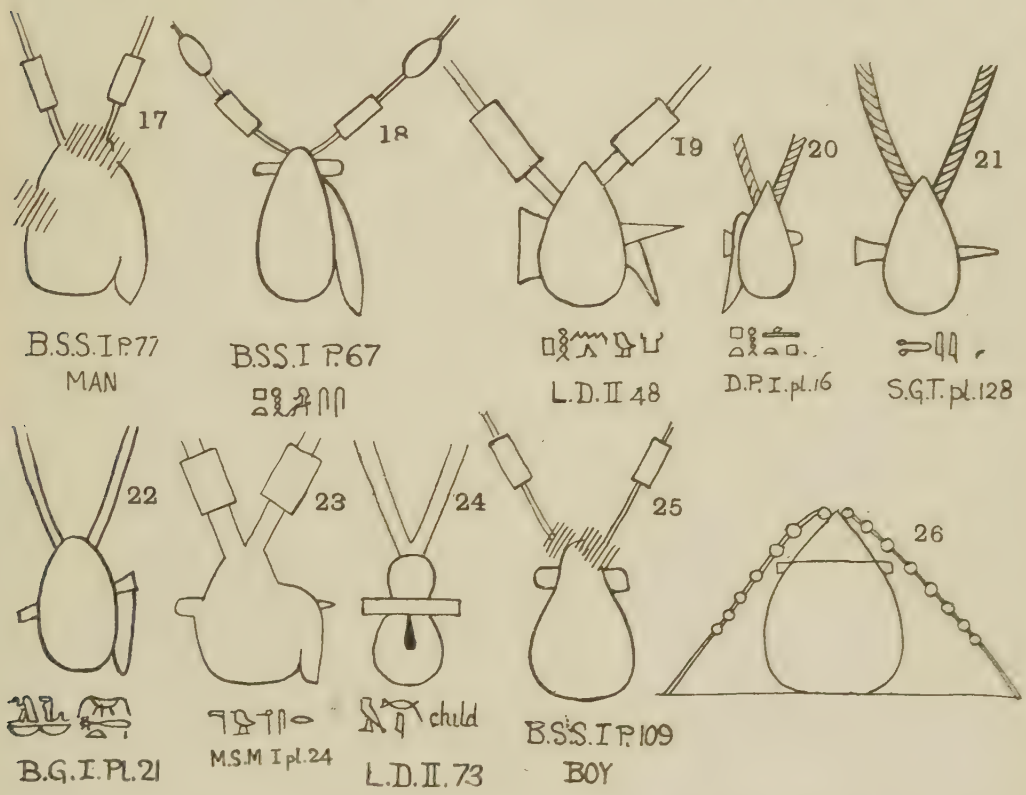


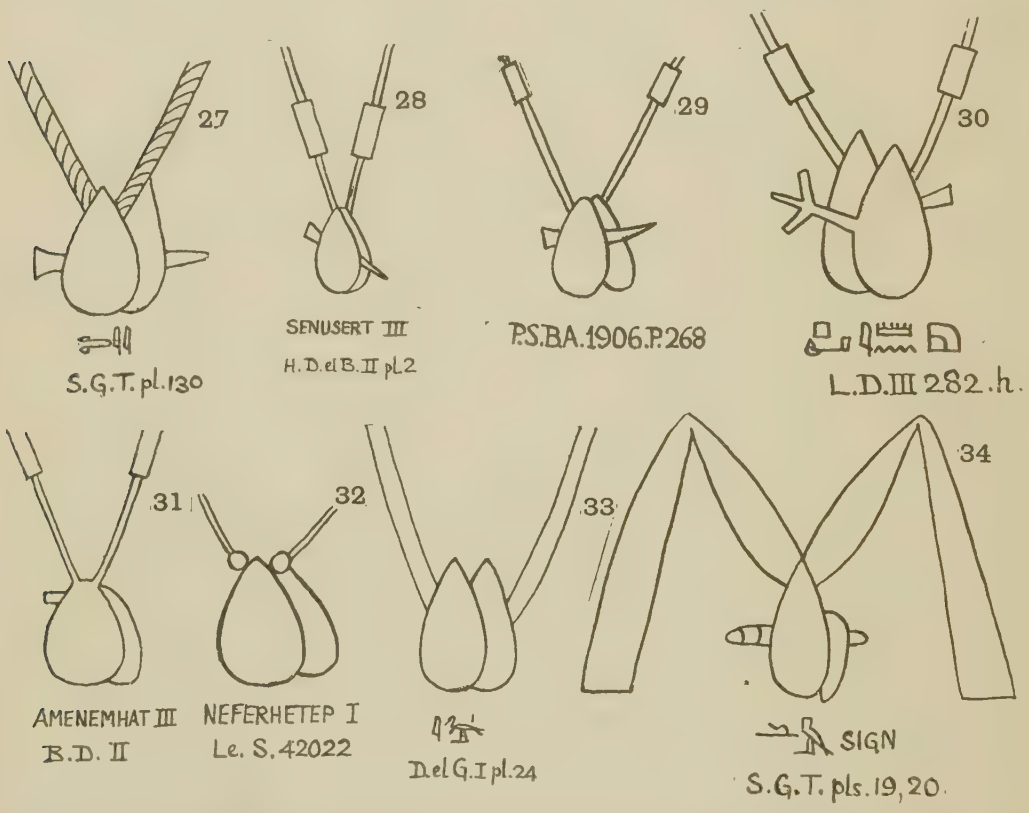
Fig. 36 the two projections are the same size and might form part of the inner portion of the pendant. Fig. 5 shows the projections very clearly, one is marked with curved lines as if to indicate a wrapping of cloth, the end of the bandage hanging down, while the pendant itself looks like a bag. Fig. 6 is more stylised, the amulet is not unlike an acorn, the projections being an integral part of the cup of the acorn. Dr. Schäfer proposes to see in it a knot tied in a linen band, but an examination of the examples given here shows that this explanation cannot be the right one, though it has been accepted by Prof. Valdemar Schmidt (*P.S.B.A.*, 1906, p. 268), and Dr. von Bissing (*Archiv für Religionswissenschaft*, Vol. VIII, Appendix).

This amulet is seen in many varieties, either egg-shaped, Figs. 7, 8, 18–22, 26, or bag-shaped, Figs. 5, 6, 9–13, 15–17, 24, 25, 35–47; the spike, which pierces it diagonally is represented as two symmetrical projections, Figs. 10, 11, 35, like the

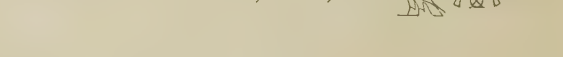
handles of a heart-amulet, Figs. 9, 15, or as a straight bar across, Figs. 18, 24–26; the projections are, however, usually asymmetrical.

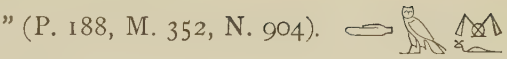
Though the second form, Figs. 27–33, is found as early as the Vth dynasty, it is more common in the Middle Kingdom. Fig. 27 shows two egg-shaped objects pierced or pinned together; this is very obviously the same as the well-known amulet, Fig. 28, on the breast of the statues of Senusert III found at Deir el-Bahri. The latest example of this amulet that I know is that of Pedu-Amon-Apt, Fig. 30, where one projection branches at the end.

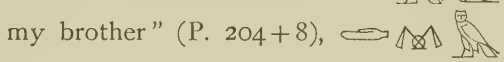
Figs. 14, 35–47, are sketched from the model amulets on necklaces of the Old Kingdom in the University College collection. These amulets have been hitherto thought to represent the clenched hand with the thumb projecting below; but a comparison with the amulet of the sculptures shows it to be the same. The oval

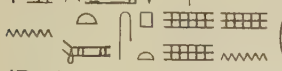


shape, the asymmetrical projection on either side, and the long "tail" starting from the shoulder and hanging below the base of the oval, are the same in the models as in the sculptures. The horizontal gash across the widest part in the carnelian examples, is evidently intended to represent the modelling shown in Figs. 5 and 6.

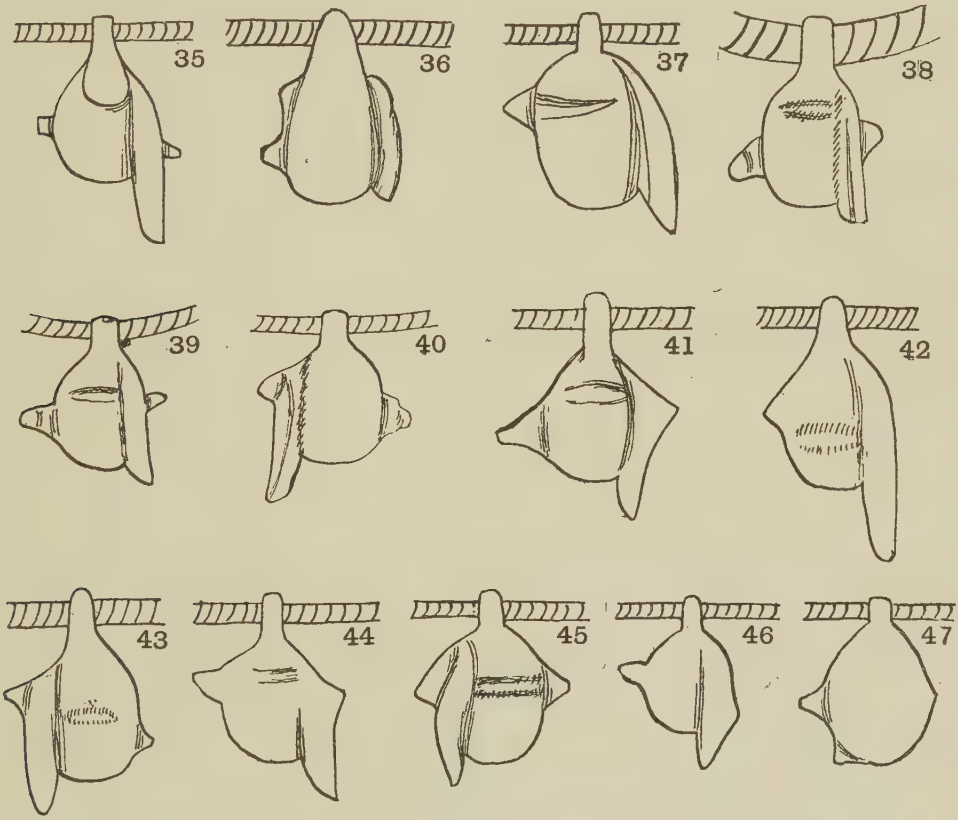
An interesting point is that this amulet is represented in the hieroglyphic sign . The early example, Fig. 34, sketched here is from the tomb of Thy at Saqqara, and shows the oval object with a horn-like projection at each side, and the "tail" hanging over one projection and reaching below the oval. The larger projection of the two is barred across as in Fig. 5. The amulet is slung on a wide ribbon caught up at each side, with the ends hanging down, so as to form a figure not unlike our capital M. The sign reads *dm* "To sharpen," or *dmz* "To unite"; both readings and meanings occur in the Pyramid Texts; thus, 

, "Sharpen thy knife, O Thoth" (P. 188, M. 352, N. 904). 

, "He unites him with my brother" (P. 204+8), 

 , "Atum has united the provinces for Pepy" (P. 668, M. 778). The meaning "unite" would apply to the amulet, which appears to be held together by the bandage and spike; but this meaning is of very little value in understanding the amulet itself and the reason for wearing it. In the later forms of the hieroglyphic sign the shape of the amulet is lost; and though the characteristic M-form is retained, the ribbons have degenerated into little flags, and the original appearance of the sign is entirely changed.

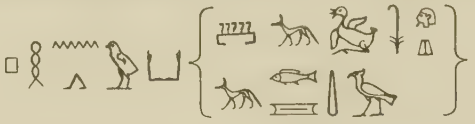
It is noticeable that the amulet is worn only by persons of high rank, and by



them only at certain times; usually when the wearer is represented in some sort of religious aspect, *e.g.*, on the false door, or receiving the funerary offerings. Kings do not wear it till the Middle Kingdom, and then not till the latter half of the XIIth dynasty.

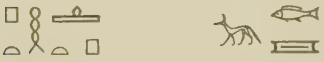
It is possible that in the Old Kingdom it may be a badge, either the sign of an office or of some grade of rank. I have therefore collected the titles of the owners as given in the scenes in which they are represented wearing the amulet. Where one man holds many offices, I have taken only those which he holds in common with other wearers of the pendant who have only one or two titles. From these examples it would seem that the grade of is indicated, but against this must be set the fact that neither Thy nor his son hold any title, and the wife of Kagemni holds no office at all. The negative evidence is also important, in that

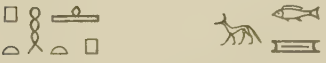
there are many nobles and officials in the Old Kingdom with the rank of who wear no pendant or any neck ornament except the wide bead collar.

 L.D. II, 48.

Q.R. Pls. 31, 33. D.P. I, Pl. 16.

D.P. II, Pls. 6, 33.

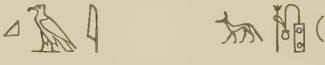
 D.P. II, Pl. 16.

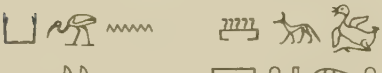
 (child) Q.R. FRONT :

M.S.M. I, Pl. 9.

B.G. I, Pl. 21.

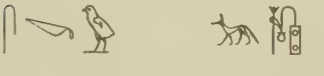
M.S.M. I, Pl. 24.

 (child) M.S.M. I, Pl. 7.

 B.G. I, Pl. 15.

S.G.T. Pl. 121.

(child) S.G.T. Pls. 25, 130.

SON OF  L.D. II, 97*a*.

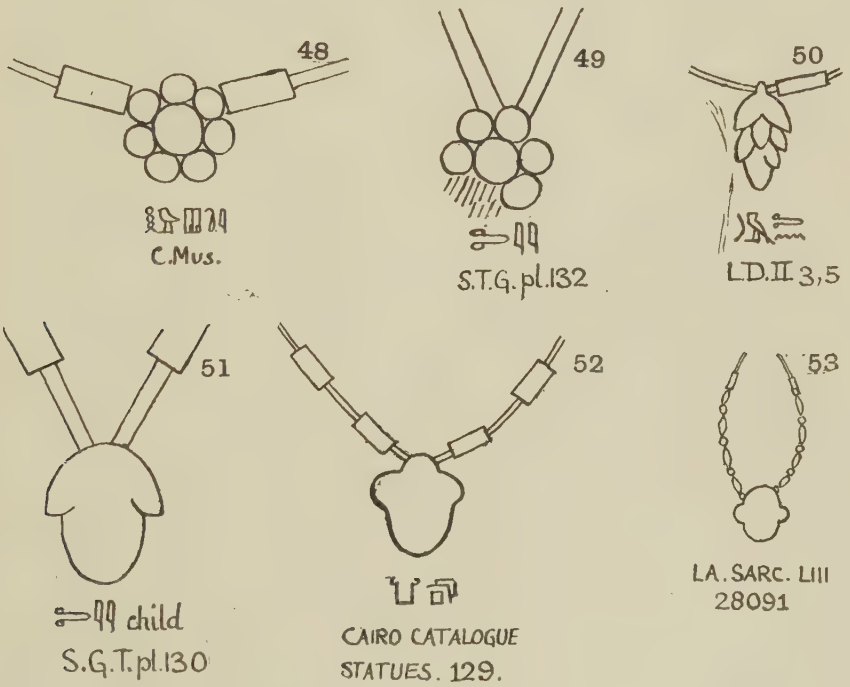
IV. Several other little pendants or amulets for the neck are found in the Old Kingdom. Of these, the form shown in Figs. 48 and 49 does not occur later. It consists of a large circular object in the centre surrounded, in the one case by seven, in the other by six, smaller circles. Hu-heta, Fig. 48, wears his amulet close round his throat in the fashion common in the IIIrd and early IVth dynasties; on each side of the pendant is a cylinder bead. Thy's pendant, Fig. 49, hangs low, slung on a long string. As no colour is indicated in either example it is impossible to know the material of this amulet; the form however suggests metal.

V. Another early amulet is that of Methen, Fig. 50, worn as usual close to the throat. The representation suggests a natural object, such as a fir-cone, or the sprout of some plant. The stringing with only one cylinder bead beside the pendant is worth noting.

Fig. 51, worn by the child Thy, appears to be a degenerate form of the same amulet. The detail has been lost with the exception of the characteristic calyx-like top. It hangs on a long string on which are cylinder beads at intervals.

VI. The amulets, Figs. 52–55, appear to be of one class. They are an artificial object as the colour shows. Fig. 52 is coloured blue, and therefore represents a blue stone,—lazuli or turquoise,—glazed ware, or metal, possibly copper; the beads are white, and the string black. Fig. 53 belongs to the Middle Kingdom; the pendant is red, probably carnelian; the beads are blue, green, and red, again representing

stones. Fig. 54 also belongs to the Middle Kingdom. Here the artificial character of the amulet is clearly seen, the large oval object having two rounded projections lashed to it. The central object and both projections are coloured dark green, the lashing is yellow. The necklace is probably shortened by the artist for exigencies of space; it consists of four globular beads, alternately red and green, on each side, and the red strings which secure the necklace terminate in loops like the hieroglyph . The name of this necklace is , *menqebyt.* Fig. 55 has a projection at the end as well as one on each side. No description of it is given, only the name , *arykhekh*, "That which belongs to the throat." It is threaded on a string on which small globular beads are also threaded at irregular intervals.



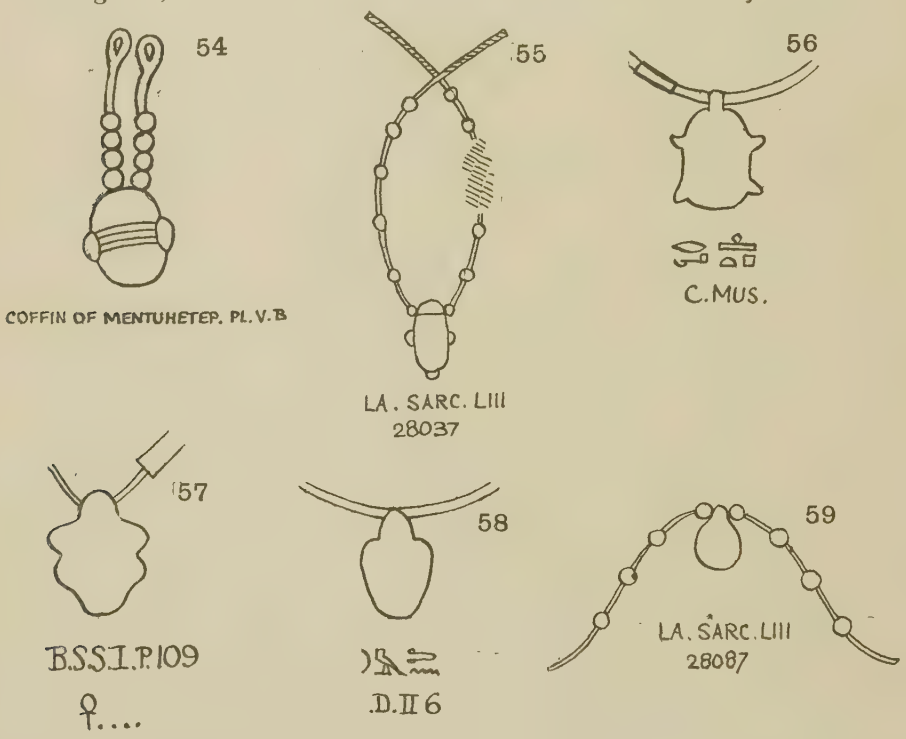
VII. The remaining examples cannot be put into any class: Rahetep's amulet, Fig. 56, is indicated in paint on his statue. It lies close to the neck as befits the early date, and is fastened by a plain string on which, as on Methen's, there is one cylinder bead. The colour of the pendant is grey, of the bead green, of the string white. Fig. 57 appears to be a degenerate form of Fig. 56. The sharp projections are rounded, and the shape is even more indeterminate than its original. It will require several more examples of this amulet before it is possible even to hazard a guess as to its origin and meaning.

Methen's pendant, Fig. 58, is totally unlike his other amulet, Fig. 50, and cannot be intended for the same; it must therefore be considered as a distinct form.

Fig. 59 also does not suggest a connection with any of the amulets previously described. The pendant is red, and the beads red and green, showing that they were all of stone.

The Stringing.—The different methods of stringing are very interesting. In the early examples the amulet is threaded on a short string, and therefore lies in

the supra-sternal notch. The string which carries Ant's amulet, No. 1, is plain and without further ornament; Rahetep's, No. 53, and Methen's, No. 47, have each one cylinder bead close to the amulet; Hu-heta's, No. 45, has a cylinder bead on each side of the pendant. The use of the bead thus strung is obviously important and it probably had a talismanic character. It is certainly remarkable that in the Old Kingdom, beads on the string which carries the amulet are always cylindrical. There must be some definite reason for this, as globular beads, ring beads, barrel beads and several other varieties of form were known at that period. It is therefore clear that special importance of a magical or religious nature was attached to the cylindrical form. In the Middle Kingdom a single oval bead with the name of the owner upon it was worn on a short string, so that the bead lay against the throat of the wearer. (Petrie, *Amulets*, Pl. VI, p. 21.) I would suggest then that the single cylinder bead of the early IVth dynasty is the origin of the name-bead of the Middle Kingdom, and that it is itself derived from the archaic cylinders with the



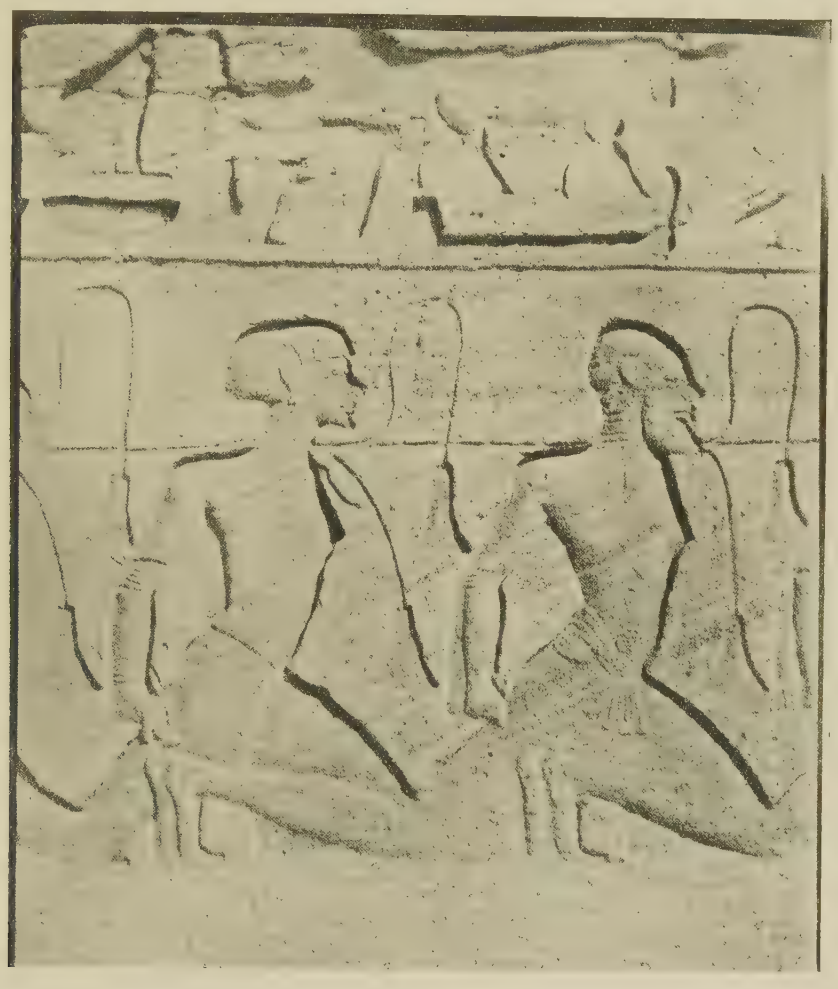
name engraved, which were used as rolling seals to mark the clay coverings of the offerings to the dead.

There is another point of interest as regards the stringing of the beads. In the earliest examples there is only one bead beside the amulet, worn like the amulet for magical protection. In the Vth dynasty the beads have increased in number, and are worn quite as much for decoration as for a safeguard. In the Middle Kingdom the talismanic character of the beads is lost, and they are worn purely for ornament; and instead of cylinders, globular beads are used. In Fig. 48 the beads are strung so closely as to touch one another and cover up the string. In Figs. 55 and 59 the beads are at intervals along the string; in Fig. 55 these intervals are irregular, in Fig. 59 they are regular. In both examples there is a bead on each side of the amulet; this is quite different from the Vth dynasty stringing, where the beads are always at a distance from the pendant.

M. A. Murray.

RACIAL TYPES AT ABU SIMBEL.

"Ce sont des photographies prises au kodak des curieuses représentations de captifs, gravées sur le socle d'un des colosses à l'entrée du grand temple d'Abou Simbel, le colosse près du passage, à droite, lorsqu'on s'apprête à entrer dans le temple. D'après ce que je sais, ces types de captifs n'ont jamais été photographiés. Je me les avais dessinés à la main en 1890, et ce n'est qu'en hiver 1912/1913 que j'ai réussi à les photographier. Comme, entre ces deux dates, certaines fissures, qui existaient dans la pierre, ont été cimentées, il est arrivé qu'un des numéros, le 10,



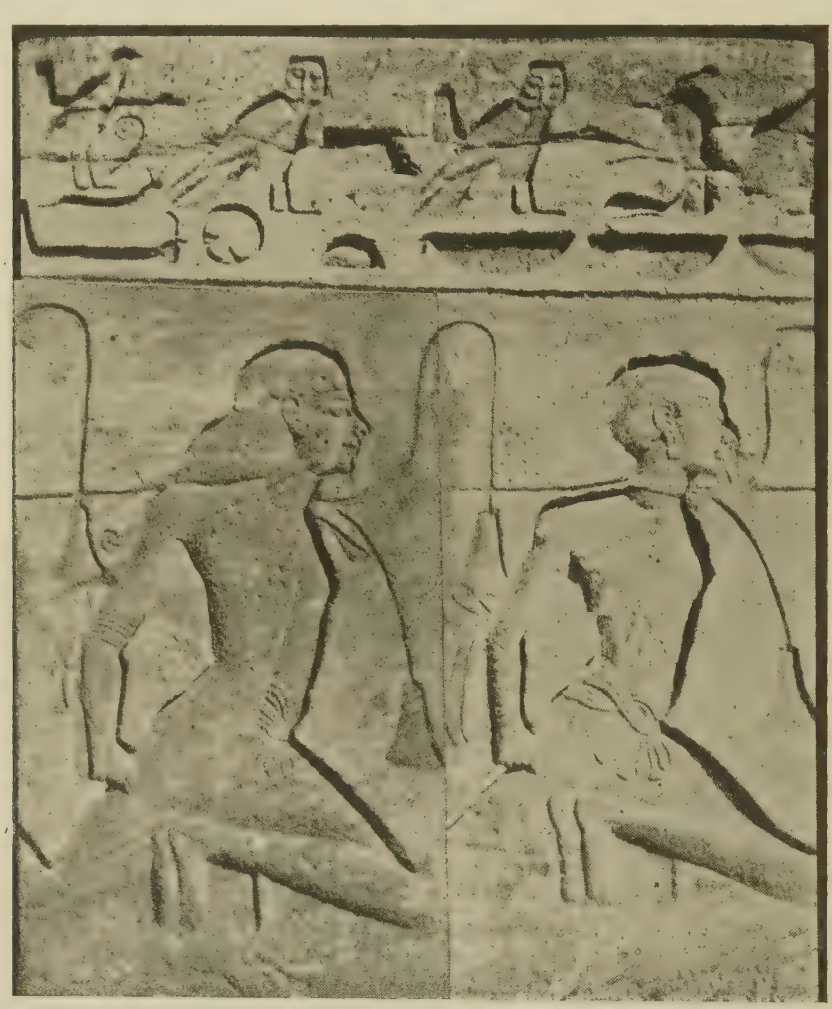
3. North Arabian. 2. Armenian.
Foreigners from Abu Simbel.

ne ressemble plus en tout point sur mon dessin et sur le photographie que je vous envoie. Sur cette dernière le menton a disparu, tandis qu'autrefois, lorsque je m'étais dessiné les visages des captifs, j'avais vu, ou cru voir, une assez longue barbiche. Aussi je donne ci-joint le petit croquis fait en 1890 du No. 10.

"Peut-être vous intéresserait-il d'identifier les différents peuples que les 11 captifs devaient symboliser, ... quant a moi, j'y renonce, car toutes les séries de noms de peuples captifs, qui se trouvent sur le socle de différentes statues de Ramsès II que je connais, différent entre elles et aucune ne semble correspondre aux 11 figures du socle d'Abou Simbel. "W. Golénicheff."

The above extracts from the letter of Prof. Golénicheff accompanying the photographs which he has kindly sent for this Journal, explain the circumstances, and it is with much pleasure that we add some notes, comparing these with other figures of foreigners in Egypt.

The first figure having lost the head, it is not reproduced here. No. 2 is of a very peculiar type, the long retreating forehead running up to a peak at the back



5. Hittite. 4. Esdraelon.
Foreigners from Abu Simbel.

of the head. This seems to be the same as one of the prisoners of Heremheb in his campaign against the Hanebu (*Racial Types*, V, 2), and therefore a northern people. The peaked form of the head, and the rolls of flesh on the back of the neck below the occiput, mark the resemblance. The same form of head is characteristic of the Armenian to-day, though with a larger nose (Breasted, *Ancient Times*, Fig. 146). It seems then that this is probably copied from a nation of the east of Asia Minor, somewhere about the head waters of the Euphrates.

No. 3 is very peculiar for the bushy hair cut short at the base of the skull. There is no instance so marked as this, but some approach it, such as the Shasu (*Racial Types*, VI, 42) and Menti (95). It seems then that this is probably a North

Arabian type. It has traces of an earring, which is northern, as in Assyria; so it may not be far geographically from the previous Armenian.

No. 4 has the hair cut close, but slightly wavy all round the head; a short narrow beard, a small aquiline nose, and an earring with a square body. The wavy hair belongs to the people of the plain of Esdraelon, being seen in the people of Karpu . . ., or Harbaj, six miles south-east of Haifa, and Atha . . . probably

7. Atha. 6. Kemena.
Foreigners from Abu Simbel.

Kafr Adan, twenty-seven miles south-east of Haifa (*Racial Types*, VIII, 132, 136; IX, 138). The narrow beard is also seen in Karpu . . . (VIII, 133). As to the general locality see Geba next beyond the above in the Ramesseum.

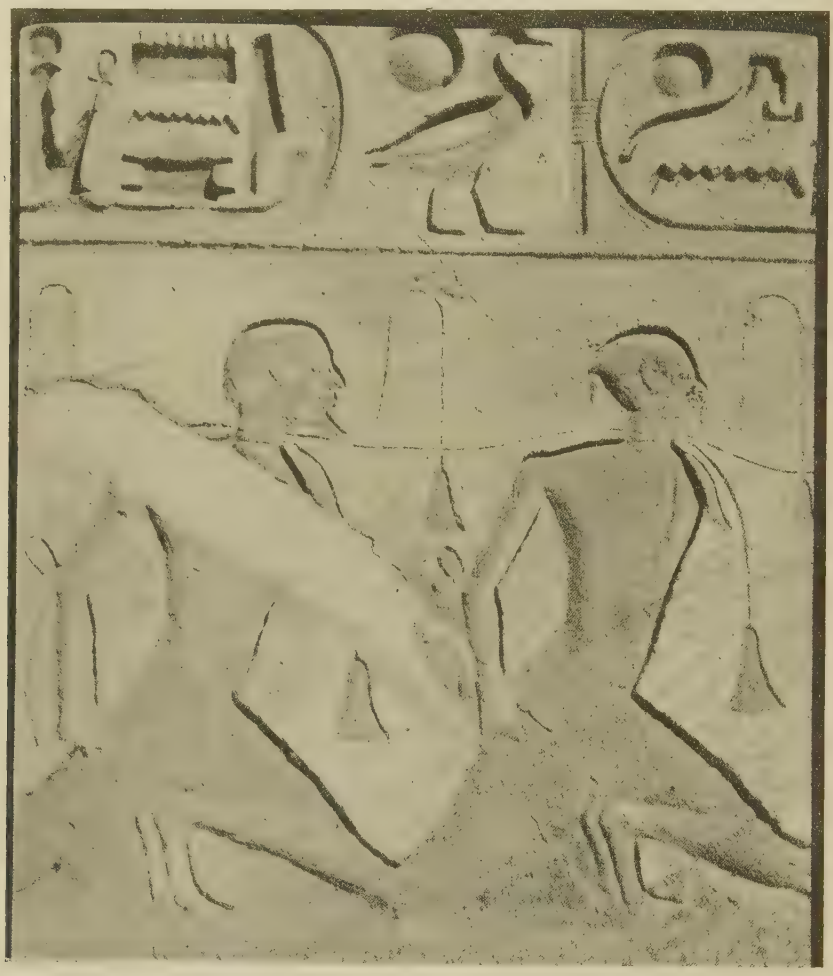
No. 5 is obviously Hittite, by the thickness of hair ending in a curl below the shoulder, see *Racial Types*, XI, 156. There is a ring in the ear like the head just cited, and a band with six large discs around the head, perhaps a form of crown worn by the Hittite chief. The face is better executed than most of the Hittite heads that we know, and this might well be adopted as the type head.

No. 6 is of the usual Syrian type, but is rather peculiar from the hair bulging out so fully below the head band. This is seen on the heads of the Amorites, but with rather a shorter face (*Racial Types*, VI, 64), while the proportion of face and

hair agree closely with the man of Kemena (*Racial Types*, VIII, 135), the Greek Kyamon, now Tell Keimun, twelve miles south-east of Haifa.

No. 7 has closely cut wavy or curly hair. This is the Karpu type, but most closely in face as well as hair is it the man of Atha . . . . (*Racial Types*, IX, 138), which from the neighbouring names of Kemena and Gaba is probably En Haddah, Greek Caphar Outheni, now Kafr Adan, twenty-seven miles south-east of Haifa.

No. 8 is a very different face, and the distinctive point is the long cap ending in a sort of liripipe. A similar cap appears on the head of a Syrian on the outside of the Great Hall at Luqsor (*Racial Types*, IX, 243), but without any locality stated.



9. Palestine Shasu. 8. Phoenician.
Foreigners from Abu Simbel.

The clue is given on the gates of Balawat where the tribute of the ships of Tyre and Sidon is accompanied by Phoenicians wearing the usual boatman's knitted cap with a turnover top. Though the top only hangs over in one figure, the kind of cap is clear, even to the loose rucks in it. Hence we can hardly avoid assigning this head to the Phoenicians, probably of the port of Haifa, considering the localities of the other heads.

No. 9 has the hair cut short behind, though less marked than No. 3. The thin long beard is unlike the usual Syrian, but is that of the Shasu (*Racial Types*, VI, 42), and the face is as closely like that, as if both had been carved from the same man.

No. 10 is very nearly the same type. As Prof. Golénicheff states, the chin and beard have been lost, and the space is now filled with cement. I have therefore copied on to the blank the drawing made by Prof. Golénicheff previously. The different character of the ground, and of the lines, will make it quite clear how much depends on this hand copy. This head is of the general Shasu type, but in the shape of the head and nose it is most like the man of Damascus (*Racial Types*, VII, 117), though his beard is not so long. The more forward growth of the beard is like that of the Bedawy, as in the desert folk at Beni Hasan. A similar forward beard is seen on the Judeans of Sheshenq's list, as of Ganata and

11. Near Tyre. 10. Palestine Shasu. (Beard added over repair.)

Foreigners from Abu Simbel.

Beit Hanina four miles north of Jerusalem (*Racial Types*, VII, 36, 37). Altogether these two heads, 9 and 10, may be taken as the settled Shasu of the eastern side, anywhere between Damascus and Judaea.

No. 11 is most like the South Syrian in the less full growth of hair and slighter face, see the Innuaa (*Racial Types*, X, 81A), Yanoah, now Yanuh, six miles east of Tyre, and a South Syrian, *Racial Types*, IX, 35.

Thus these ten figures begin with the Armenian of the North, and then belong to the Galilee region North and South.

W. M. F. P.

SOME FRESH INSCRIPTIONS.

In the magnificent collections of Sir Frederick Cook at Richmond there are several Egyptian objects, and by his kind permission I now publish two of the inscriptions. There is no provenance for either of them ; they were bought more than forty years ago by the late Sir Francis Cook.

I. False door of Ni-kau-Ptah. Limestone, height 56 in., width 41 in.

Panel.—Ni-kau-Ptah wearing pleated loin-cloth, facing to right, seated before a table of offerings on which are the usual upright leaves. Between Ni-kau-Ptah and the table, the hieroglyphs " Bread, a thousand," on the other side of the table, " Beer, a thousand." A standing figure facing to the left holds a censer in the right hand and lifts the cover with the left. Between this figure and the table, " Scribe of the treasury, Ptah-kha-f." The inscription is curiously arranged. At the top it is divided above the table of offerings ; the part to the left reads from right to left ; that to the right, from left to right. The inscription behind the standing figure is so arranged as to bring the three in line. Above the seated figure : (1) " The Royal Scribe of the accounts of Pharaoh, (2) he who is in the two Houses of Gold, he of the Purification-house, (3 vertically) Ni-kau-Ptah." Above the standing figure two horizontal lines of inscription : (1) " By his brother of eternity. (2) He sacrifices. Behold him." Behind the standing figure : (1) " A burial (2) in the beautiful West (3) among the worthy ones."

Lintel.—A single line of hieroglyphs, reading from right to left : " May the king give an offering and Anubis who is in the Shrine of the God. A burial, in the necropolis of him who is worthy before the great God."

Left side, inner jamb.—Two vertical lines of inscription, below which is the standing figure of Ni-kau-Ptah, holding a long staff in his left hand, a folded cloth in his right, and with his name inscribed horizontally above him. The inscriptions read from right to left :—(1) " Follower of the treasury, priest of King Sahu-Ra, (2) priest of the Ra-em-sep obelisk, king's uab-priest, (3) Ni-kau-Ptah."

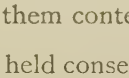
Left side, outer jamb.—One vertical line of hieroglyphs. " The instructor-scribe of the treasury, favoured of the king." A second line was obviously intended as the name has been begun both top and bottom, and was to have been carried horizontally across both lines. The sculptor has managed to achieve the " Ptah " only, and the second line is left blank as well as the remainder of the name.

Right side, outer jamb.—Two vertical lines of inscription, reading from left to right : (1) " Oracular priest of the Rekhyt-bird . . . Overseer of the treasury, (2) . . . . offerings (?) and fatlings, [sealbearer ?] of the king of Lower Egypt." The inner jamb is uninscribed, and the drum also.

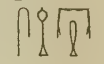
The style of the inscriptions and figures dates this piece to the VIth dynasty. The provenance is probably either Saqqara or Abusir, for Ni-kau-Ptah not only bears the name of the god of Memphis, but is also the priest of the Ra-em-sep obelisk and of King Sahu-Ra. The king was buried in one of the pyramids of Abusir ; and the obelisk is one of the four obelisks the names of whose priests are found in the tombs of Saqqara. The site of one of these obelisks was at Abusir.

False Door of Ni-kau-Ptah.

The early form of the obelisk is worth noting: the wide base rises from a low square platform, the pillar itself is short, very little taller than the base, and is surmounted by a circular disk. This disk was probably of polished metal—gold or copper—fastened into a slot in the top of the obelisk.

The titles are interesting, though there is nothing unusual. Ni-kau-Ptah held three offices in the *Per-hez* or treasury, but there is nothing to show whether he held them contemporaneously or consecutively. I incline to the belief that they were held consecutively, first the  , then the , and finally the . The cult of King Sahu-Ra continued till Ptolemaic times, though naturally most of the priesthoods are found in the Old Kingdom.

It is unfortunate that the upper part of the right outer jamb is too much destroyed to be legible. The first title appears to be the fairly common one, *medu rekhyt.* This has been translated "Staff of the people," which though literal conveys little meaning. The sign when it occurs in titles, at least in the Old Kingdom, is associated with the name of an animal-god, Apis and *Ka-hez* the White Bull, who is possibly Mnevis. The word *medu* means "speech, word," and when applied to a person would mean "Speaker." The animal-gods, especially Apis, were essentially oracular, and as the oracles were always interpreted by the priests, the title, , may reasonably be translated as "Speaker [*i.e.*, interpreter of oracles, or oracular priest] of Apis." There is reason to believe that the crested plover was at one time a sacred or even divine animal. On the great mace-head of the Scorpion king there is represented a row of standards from each of which a rekhyt-bird is suspended by the neck (*Hierak.* I, Pl. XXVI*c*, 1). Frazer points out (*Ad. Att. Os.* I, 146, 228, ed. 1914), that in some parts of the Near East the sacred animal or incarnate god was sacrificed by hanging on a pole; this was especially the case with birds. If then we see in this bird a primitive deity, the title will read "Oracular priest of the plover-god."

The name Ni-kau-Ptah, "Belonging to the *kas* of Ptah," is not very common. I have three references to it (*Names and Titles of the Old Kingdom*), two from Saqqara and one from the Wady Hammamat. In the tomb of Ptah-uaṣh at Saqqara (Mariette, *Mastabas*, D. 38), there is a , who holds the titles , and therefore cannot be the same as the owner of this false door; the other two have no titles. The name Ptah-kha-f, "Ptah is he who appears," is rare. I know it only as the name of a bearer of offerings in the tomb of Ptah-shepses I at Saqqara (Murray, *Saqqara Mastabas*, I, Pl. XXVII), whose only title  refers to his temporary position in the funeral ceremonies.

II. Round topped stele. Limestone, height 22 in., width 17 in.

Obverse.—On left, a goddess in a tree, facing right, giving food and water to a man and woman who kneel before her. The tree has horizontal bands round the stem, and stands in the cup-shaped depression in which all large and important trees are represented; this depression was for holding the water when the tree was watered. The two balls probably represent stones, which protected the roots and at the same time allowed the water to percolate through. The goddess wears the

name of Isis on her head, and holds in her left hand a tray of food and in her right a vase from which pour four streams of water; two fall into the hands of the man, while two pass over his head into the hands of the woman behind. The man kneels on the left knee; he is clad in a skirt-like garment fastened at the waist;

Stele of Tehuti-hetep and Kayay.

he wears necklace, bracelets and armlets; and his wig, short at the back, falls in a lappet in front to his breast. The woman kneels on both knees; she is clothed from head to foot in a long cloak, worn over a close-fitting dress with short, pleated, bell-shaped sleeves, her wig falls almost to her waist, both back and front; she

wears no ornaments. Behind her is a small, standing, figure of a man with a shaven head, dressed in a long-skirted garment; he carries a papyrus-stem in the left hand, and raises the right in adoration. Round the top above the figures are seven vertical lines of inscription: (1) [Above the goddess] "Hathor, Lady of the West. (2) Chapter of drinking water (3) by the Chief of the Māsha- (4) kabu, (5) Tehuti-hetep, true of voice. (6) The Lady of the House, Ka-(7) yay, true of voice. His son . . . . -hes."

Behind the tree is one vertical line of inscription: "She gives water as is right."

Below the scene are four horizontal lines of inscription: (1) "May the king give an offering, and Osiris, Horus, and Isis, may they give bread and beer, air, water, incense, (2) and all things good and pure, coming forth before them; for the *ka* of the only excellent one, the regulator (3) of the embassies of the king to all foreign countries, he who belongs to the two feet of his god, he who enters (?) to his lord, he who is beautiful (?) before him; the Chief of the Mā-(4) shakabu, Tehuti-hetep, true of voice, belonging to the Rowers of Rameses, beloved of Sekhmet."

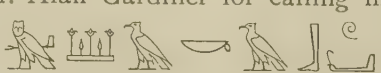
Reverse.—Osiris, enthroned, facing to right; behind him, the emblem of the West; in front a table of offerings piled with cakes and surmounted by a bull's head and haunch. Under the table to the left is a vase on a stand, with a lotus twined round it. Facing the god are a man and woman standing. The man is dressed in a long-skirted garment, he wears a short beard, and his wig falls to the breast in front, to the shoulder-blades behind; his right hand is raised in adoration, and in the left he carries a sheaf of flowers. The woman wears a long, plain, cloak opening over a pleated robe with short, pleated, sleeves; her wig falls to the waist, back and front, and her head is adorned with a cone and a lotus-blossom. Round the top, above the figures, are eight vertical lines of inscription: (1) "Osiris, lord of Abydos. (2) May the king give an offering, and Osiris, may he give bread and beer, (3) cool water and incense, for the Chief (4) of the Māshak- (5) abu, Tehuti- (6) hetep, true of voice. (7) The Lady of the House, Ka- (8) yay, true of voice."

Below are three horizontal lines of inscription: (1) "May the king give an offering, and Osiris, Ruler of the Two Lands, may he grant to me that I may enter among the souls ex- (2) cellent and all the gods around him, that my offerings be increased before me, [for] I am he who is alone (3) among them. For the *ka* of the Chief of the Māshakabu, Tehuti-hetep, true of voice, belonging to the Rowers of Merenptah, beloved of Sekhmet."

Sides.—Down each side, *i.e.*, on the thickness of the stone, is a vertical line of inscription: "The Osiris, the Chief of the Māshakabu, Tehuti-hetep, true of voice."

On the side to the left of the obverse, Tehuti-hetep's name is written with the moon-crowned ape; on the other side, it is written with the ibis on a perch. The same variation in writing occurs in the other inscriptions on the stele.

The name Tehuti-hetep is rare, the usual compound with Tehuti being *mes*. The name Kayay is not uncommon, it is found as Kayuy and is spelt in various ways, as is often the case when several weak letters come together; one of the most usual forms is .

I am indebted to Dr. Alan Gardiner for calling my attention to the occurrence of the word  elsewhere, and for giving me the following references: Tomb of Nebnefer at Deir el-Medinet

(mentioned also in Gardiner and Weigall, *Topographical Catalogue of Theban Tombs*); Pap. Leiden 350, Verso III, 3; British Museum 1183 (new 701). Burchardt (Altkanaanischen Fremdwörte 513) translates the word *Aufseher*, "Overseer,

Stele of Tehuti-hetep and Kayay.

surveyor," and gives references to Pap. Bulak 12, 6, and Harris 28, 5. Nebnefer's tomb is absolutely dated to the reign of Rameses II, and the other occurrences of the word are also of the middle and late New Kingdom.

Tehuti-hetep holds the interesting title of *mtï upt nï-sut er khast neb*, "Regulator of the king's embassies to all foreign countries." This, taken in connection with his principal title, Chief of the Māshakabu, suggests that he had strong foreign connections. The epithet "Belonging to the feet of his god" is not very common, the more usual form is "Belonging to the feet of his lord." For the next two epithets I can find no other examples. *Khen* as a verb means "to go in, to enter," but is usually determined by the walking legs. The title of "Rower" of the king appears to indicate an important office, as it is found on both sides of the stele immediately after the name of Tehuti-hetep in a very conspicuous position. The king's names are not in cartouches.

The names of Rameses and Merenptah give the date of the stele as the latter half of the XIXth dynasty; and the mention of the goddess Sekhmet suggests Memphis or Thebes as the place from which it came.

M. A. Murray.

FRENCH EGYPTOLOGY DURING 1916.

In the *Comptes Rendus* of the Académie des Inscriptions for April, 1916, M. Seymour de Ricci edits a Greek inscription which has been stored in three pieces in the Alexandria Museum for some years. The third of these fragments had remained unpublished, and it is by means of it that much of the text can now be restored.

The inscription is an extract from the official records of the Idiologus of Alexandria for the 27th of Thoth, of the fifth year of Hadrian, A.D. 120. It concerns the trial of one Ulpius Potamai—who appears to have been a freedman of Trajan—and a troop of guards of the necropolis who, according to M. de Ricci's restoration of the letters, were Lycians. Their corps was called a *politeuma*, or a municipal brigade, a word used for a body of Cretans in the Tebtunis Papyrus No. 32.

The inscription, which was probably set up as a warning to others, sets forth that the Comogrammateus of Mareotis had ordered Potamai and his guards to be tried for neglect of their duty in safeguarding the cemeteries. The punishment awarded them does not appear, owing to the text being broken away.

In a communication to the French Academy, M. A. Moret has been explaining a rare term used in several of the decrees found by MM. Adolphe Reinach and Weill at Coptos. His essay concerns the correct meaning of the sign , as a description of one of the functions of the *meritou*, or workmen, of the IVth dynasty era.

He reaches his result by showing from a text that may be rendered also by , and that both mean *four*, the kiln or furnace of a pottery. The sign therefore qualifies an artisan as a potter.

The whole of Vol. XX of the *Sphinx* of Upsala is occupied by a transcription and translation of the Harris Magic Papyrus by Ernst Akmar (formerly Ernst Andersson). He reviews the rendering of this hieratic text into hieroglyphs by Chabas and Budge, and gives his own hieroglyphic version in 45 pages of 12 lines each. Then in some 40 pages M. Akmar adds the reasons for his differing from the transcription of the hieratic, and consequent translation by Dr. Budge, in the *Facsimiles of Hieratic Papyri*, 1910: "The Beautiful Chapters of the Songs which drive away him that is submerged." The changes—many of them of minor importance for comprehending the general ideas expressed in the text—are very useful for all students of the hieratic script, and apply to quite half the lines of the manuscript. To comment upon the emendations of M. Akmar here would need much space and be difficult to follow without printing a facsimile of the papyrus. The difficult passage speaking, according to Dr. Budge, of the Crocodile Mako being "bound fast with four fetters (made of) Metal of the South"—for the real meaning of which harpoons had been suggested—M. Akmar renders "bound to the four pillars of greenstone of the South, which are on the bow

of the Ship of Ra." If he is correct, this is one of the chief changes he makes in the wording of this singularly useless series of chants or incantations.

The second fascicule of Vol. XII of the *Bulletin de l'Institut Français d'Archéologie Orientale* is almost entirely occupied by M. Georges Daressy and Mr. F. W. Read upon the Palermo Stele: apropos of M. Gauthier's publication of the fragments at Cairo in the *Musée Égyptien*, Tome III. [A discussion of this appeared in ANCIENT EGYPT, 1916, pp. 182–184.] Mr. Read, in his remarks, gives good reasons for considering that we now have pieces of three copies of this early text.

M. Daressy's essay, which extends to more than 50 pages, is the first publication to utilise fully M. Gauthier's edition of the Cairo Museum fragments for restoring the regnal successions and chronology of the first four, and part of the fifth, dynasties after Menes. He provides elaborate tables in which he first gives his views based upon the new evidence of the list of Pharaohs for the first three dynasties, as now disclosed by the additions we have to the Palermo Stele inscriptions. He then discusses all the information given by these texts, comparing it with the Turin Papyrus List of Kings, those of the texts at Abydos and Sakkara, and Manetho and Eratosthenes. Then two special tables are devoted to the fourth and fifth dynasties, another to the pre-Menite kings, and, finally, he discusses the Horus-titles of monarchs of the first three dynasties. M. Daressy concludes by saying: "It is only some twenty years ago that the three first dynasties were considered as legendary. Discoveries made since then have demonstrated that they certainly existed, and have left us monuments. Thanks to the Stone of Palermo, we are now able to control the Pharaonic lists and the Greek classics."

It is pleasing to note the entrance of a British Egyptologist into the pages of the *Bulletin* of the *École Française* in the person of Mr. Read. His article is more confined to a review of M. Gauthier's paper in the *Musée Egyptien* and the heliogravures of the Cairo fragments there provided. Mr. Read suggests that the sign in line 6 of the largest of the new pieces, which is followed by a lacune and then should be restored by the hieroglyphs , as we knew from the old stele that these Annals occurred at that position, and this seems to be the case.

He also points out the great importance of the new fragments, proving that in the complete inscription for the pre-dynastic kings there was not only a row wearing only the crown of Lower Egypt, but also a series wearing that of Upper Egypt. Because, although we knew that the stele at Palermo had a series of pre-Menites wearing only the lower Egyptian crown, that did not prove it intended to represent them as ruling over Lower Egypt only; because Pharaohs we know, who governed the whole country, are often shown with only the single crown. Now, we see that there were on the stele two rows of kings, one wearing the crown of Lower and the other that of Upper Egypt; it gives strong reasons for thinking that it was intended to indicate pre-Menite sovereigns who reigned over Upper and Lower Egypt respectively.

M. Étienne Combe edits eleven Arabic funerary epitaphs dating from before the Tulum dynasty, mostly merely citations from the Koran. Some curious Saracenic sculptural decorations are illustrated from Dr. Fouquet's collection.

M. Henri Munier treats of some Coptic manuscripts of the Old and the New Testaments. These, as a rule, are not of high value for textual criticism, because

one is never sure that divergences from the *textus receptus* are not due to scribal carelessness. One of the manuscripts in this case, which, among other texts, gives part of Genesis xxxvi, is of importance. The scribe, or the writer this scribe was copying, appears to have been a learned man. The twenty odd verses of Genesis xxxvi contain chiefly a long list of names, particularly interesting because duplicated, with variations, in 1 Chronicles. The Coptic titles as a rule agree closely with those in the Codex Alexandrinus, but where that does not very nearly transmit the original Hebrew form, the Coptic scribe in his text endeavours to do so.

Several of these tribal names also appear upon Egyptian Monuments or papyri, such as Lotan, Hor and Aiah.

The first fascicule of Vol. XIII, that for 1916, of the *Bulletin* contains what is practically a complete treatise upon the "Logement et Transport des Barques Sacrées et des Statues de Dieux dans quelques Temples Égyptiens," by M. Legrain. He commences by giving a technical description of the construction of the litter or platform upon which the priestly porters carried the sacred boats of the various temples. The number of the supporting poles or bars varied according to the periods of Egyptian history, and to the deity whose shrine they bore. The bearers were all strictly arranged according to precedent, certain members of the hierarchy being assigned to a definite place. The carriers of Amon's sacred barque at Karnak numbered thirty. They were all priestly duplicates of deities: fifteen of them of the "Paout of the great gods, the Spirits of Pa," and the same number of the "Paout of the lesser gods, the Spirits of Nekhen." They thus symbolised the rows of these deities found displayed in vignettes in the illustrated funerary papyri. Where these deities had animal heads, the representative priestly bearers are shown wearing masks and headdresses to symbolise the divine type. These gods themselves are represented upon the sculptured reliefs or paintings upon the shrine halls, where the sacred barques were deposited. The arrangements for the porterage of the barques absolutely illustrate the mythology of Egypt. Thus, at first, the Amon shrine litter had but three bars, later augmented to five, with six bearers to each bar. It would be thought that the increase in number was owing to the greater magnificence of the temple, the larger size of the boat-shrine carrier itself, with its greater decorations as the riches of the temple increased. It would appear as if the change had a religious origin, because the earlier Paouts were enneads, and so the bearers representative of each were restricted to nine. M. Legrain thinks that in primitive times these priest-gods tugged or hauled the boat containing the god's shrine on the river, or upon a sleigh to convey it from the Nile bank into the shrine, before the idea of shouldering the litter carrying the barque became fashionable. M. Legrain goes on to describe fully the dimensions and shape of the halls wherein the litter and the barque were placed and guarded, and the ceremony of their deposition therein.

One special occasion when they were taken out in procession and returned was that of a coronation. He gives a somewhat full account of this function, and compares some of the ritual with that at Jerusalem as given in Kings and Chronicles. The coincidences, however, appear to be accidental, or only such as would naturally arise from the similarity of the occurrence. The rôle of the chief priest and of a priestess, who represented temple deities at all goings forth of the sacred barques, is recounted, as far as they can be restored to us, by the reliefs and

inscriptions, chiefly those at Karnak, where M. Legrain has resided for so many years.

In the second part of his memoir he describes similar ceremonies at many other temples, such as Luxor, Qurnah, Deir el-Bahri, Medinet Habu, Edfu, Dendereh, Esneh, and Kom Ombo. The accounts derivable from Ptolemaic temples are necessarily of late date, but, doubtless, strictly in accord with more primitive practices. This story of the sacred barque goes back to the most archaic period of Egyptian civilisation, because it is the earliest of all representations of the cult of the gods, as shown upon the most primitive pottery. Thereon we see the boat with its shrine for the deity being rowed along the Nile, the totem symbol of the god upon the summit of a mast, and the populace upon the river banks acclaiming the boat's passage.

In the same number of the *Bulletin* M. G. Daressy again takes up the identity of the animal shown as representative of the god Set, his interest in the question having arisen from Dr. Schweinfurth having recently suggested it is the Octeerops or Ant-eating "Aardvaak" of South Africa. M. Daressy concludes it is an imaginary animal, designed to depict all the most contrary attributes to those of the boar which was the principal form of the Set-animal in the earliest times. To support this view he gives a table of the features of the boar, and the diametrically opposite ones of the Set-creature. He believes the basic origin of the conception was to design a fictitious animal so physically helpless that he could not possibly injure Horus. It will be remembered how much some of the Set-animal figures resemble a jackal (excepting in the vertical tail). M. Daressy cites a singular passage from the Harris Magic Papyrus: "The boars, to worship thee, have assumed the bodies of jackals." Set once governed Upper Egypt and appears as totem for one, if not more, of its Pharaohs, as the Set-animal; but on the Palermo Stele as symbol of one Pharaoh, this composite creature is replaced by a boar as the king's *nubti* symbol.

M. Daressy does not include the Set statuettes in his study, which should be done. One in the Hilton Price Collection was published in the *Proceedings of the Society of Biblical Archaeology* about sixteen years ago, which renders the head and prehensile snout—something like that of the South American tapir—very realistically.

The remainder of the *Bulletin* is taken up by M. Henri Munier's long article upon "Une Relation Copte Sahidique de la Vie de Saints Maxime et Domice." He gives the whole Coptic text with translation of a new-found manuscript from the Hamouli Monastery. Whilst deserving full praise for his erudition and the time and labour expended, it may be ventured to suggest it seems a pity to go to so much expense to publish such a worthless production. The rubbish of the alleged adventures and miracles of these pseudo saints is quite unworthy of reproduction. Moreover, a Bohairic version has been published by M. Amélineau, and Syriac and Arabic recensions are known. It may be presumed such a work would not be composed and inscribed unless the pious would purchase and peruse it, and therefore it throws a curious light upon the mentality of Egyptian Christianity at the time such a story was produced.

In the *American Journal of Archaeology*, 1916, pp. 175–200, Prof. A. L. Frothingham publishes an article entitled "Hermes, Snake-God, Caduceus," which will be of value for the tracing back to an Asiatic ancestry of some elements of

Hellenic mythology. The greater part of the essay is devoted to proving by reproduction of the figures upon cylinder-seals and other relics of Mesopotamian and Hittite art, the origin of the Caduceus symbol among the Babylonian, Assyrian, and Hittite races. Also, at a later period, of the Babylonian deity who for a time embodied the ideas connected with the duplicate serpents which formed the Caduceus. These dual serpents, male and female, were undoubtedly significant of fecundity, and therefore were used as emblems in association with a nude goddess and a god depicted at times with ithyphallic character, and trees and plants emblematic of prolific vegetation.

The basis of these ideas is the origin of life—as illustrated by what Prof. Frothingham terms the connubium of these two deities, representing the vivifying solar heat—and the soil and moisture and their union, at seedtime, producing harvest. The deity, the animal, and the vegetable figures in the groups exemplify this, especially upon a fragment of Phoenician pottery found in Spain. For the ingenious and erudite manner in which the matter is discussed our readers should consult the article referred to. It is alluded to here because Prof. Frothingham does not treat upon the Egyptian iconography of his subject of the Caduceus, for this same symbol, although not frequently employed, was known to, and depicted by, the ancient Egyptians from very early times. Whether they adopted it from Asiatic sources, or it was a symbol of concepts evolved by the Egyptians themselves, we cannot yet decide.

The representation of a single serpent, or of two separate ones, by Egyptian artists on the other hand, was quite common.

An early example of combined serpents is on a cylinder of the Hyksos king Khyan of the XVth dynasty, which is preserved in the Athens Museum.

Another specimen of the group may be seen in the Egyptian Collection at University College, London; see the last number, p. 33.

Prof. Frothingham shows a Babylonian group of a deity grasping two serpents, which is a very similar attitude to that of Horus in the scenes wherein that deity is depicted standing upon crocodiles and holding scorpions, and sometimes animals as well as snakes. These images are always supposed, however, to be solely concerned with the god's protective power against the bites of animals and reptiles.

In the recent volume of the *Bulletin Correspondance Hellénique*, M. Gustave Blum has an article upon "Princes Helléniques," which concerns the portraiture of two of the Lagides: Ptolemy IV, Philopator, and Ptolemy VI, Philometor. It is illustrated by admirable photogravures of gems and coins, and provides perfect representations of the physiognomy of these two princes. For the first, the finest portrait is that upon a cameo in the Cabinet des Médailles, which M. Babelon published as a figure of Harpocrates. A comparison of the bust depicted on the gem with a coin of Philopator preserved at The Hague, and another in the Löbbecke Collection, leaves no doubt but that all three represent the same personage. Moreover, the head upon the cameo bears the double crown of Upper and Lower Egypt. The face is youthful, because Philopator ascended the throne when only twenty-two years of age. The king's portrait being, on the cameo, so Egyptianised as to be considered an Harpocrates, is an interesting comment upon the fact that he was the first of the Ptolemies to be crowned at Memphis according to the Ancient Egyptian rites for such a royal function.

For Ptolemy Philometor M. Blum produces two busts upon gold rings in the Louvre Collection. One of these shows the king with the Egyptian double crown,

the other with the arrangement of the hair of a Greek Basileus. M. Blum suggests that these two intaglios, which were found together, belonged to some official who used them as signets upon the same occasions—the Egyptianised figure for sealing Demotic documents, and the Hellenic one for that of their duplicate Greek counterparts. The phototypes of the rings are placed alongside two others of Philometor's coins which completely justify M. Blum's attribution. The face of the second monarch bears very slight resemblance to that of his ancestor Philopator.

For other Ptolemaic portraits see ANCIENT EGYPT, 1916, p. 95.

In M. Dussaud's new Catalogue of *Les Monuments Palestiniens et Judaïques* in the Louvre, he gives heliogravures of three steles from Tel el-Yahudiyeh, in the Delta, bearing Greek epitaphs, which were obtained a few years ago by M. Seymour de Ricci. One of these reads :—

> "In the year 7, the 7th of Phamenoth, Sabbataios, son of Somoelos, died, too early, age about 25 years."

This, like the other inscriptions, is a record of a Jew, and so confirms the existence of the Jewish colony at this place, Onion. The name is identical with that in another Jewish epitaph recently recovered near Heliopolis. It is a title similar to that of personages mentioned in Nehemiah viii, 7, Esdras ix, 48, and elsewhere, but it also is to be found concerning a member of the citizens of Nippur, probably a Jew in the time of Artaxerxes or Darius II, for Prof. Hilprecht, in his "Business Documents of Murashu Sons," gives a name written in cuneiform as Šabbataai. In the Tel el-Yahudiyeh text, Samoelos is intended, doubtless, for Samouelos.

Another epitaph is of "Elazaros, the good, beloved of all, aged 30 years, the 2nd year of Caesar, 20th of Mechir." This would be 28 B.C.

The third text is of a "John, son of John," and is undated. The Sabbataios year is almost certainly of Augustus, like that of Elaazaros, and so will be 23 B.C.

M. Naville, when excavating at the same site, found inscriptions of Jewish residents. In one of these the person was named Eleazar; another was "Mikkos, the son of Nethaneus" (Micah, son of Nethaniah). Other names were Barchias and Salamis, or Salome Barchias. Barachiah's death is dated in the 35th year which could only apply to the prolonged reign of Augustus. It is interesting to note that among the Jews presumably dwelling in Egypt, who were on the Committee of the Septuagint translation, two were named Sabbataius and one Eleazar.

The Committee for the Preservation of the Arabic Monuments of Egypt, which is closely connected also with the administration of the Arabic Art Museum in the Sharia Mehemet 'Ali in Cairo, has for some time been carrying on excavations in some of the large mounds behind what is called "Old Cairo." These mounds cover the remains of the mediaeval early Mohammedan town of Fostat, which was laid out on a town-planning scheme copying the arrangement of the tents of the Amirs and Sheikhs which formed the great camp when the Arab invaders besieged the Roman and Byzantine Babylon.

The discoveries of pottery, most of it fragmentary, have been very considerable; also a number of funerary Arabic inscriptions have come to light, but not any monuments or architectural remains of importance. The finds of manuscripts, however, have been very numerous—papyri, parchment and paper being all

represented—and some two thousand pieces, of more or less value, have already been collected. They are almost all of the age of the Arabic dominion, and mostly what may be termed domestic documents, such as reports of commissions for transporting agricultural produce, records of mercantile transactions, revenue disputes and such like. One manuscript, in perfect preservation, concerns the giving of freedom to a slave. This is of the eleventh century.

The whole Collection, which is likely to be much augmented in the immediate future, will be stored in the Museum of Arab Art, and will make Cairo to be a centre for studying records of the early eras of the Mohammedan rule in Egypt.

JOSEPH OFFORD.

JOURNALS.

Recueil de Travaux relatifs à la Philologie et l'Archéologie égyptiennes et assyriennes. Vol. XXXVII, 1916. Liv. 3–4.

[The first half of this volume was noticed in ANCIENT EGYPT, 1915, p. 183.]

JÉQUIER, G.—*La tête de panthère.* This is the *peh* hieroglyph usually called the lion's head. In the Pyramid Texts the king takes the insignia of the panther skin, long staff, and sceptre *aba*. The panther skin is named *ba*, and so is the panther *ba*, or *aby*. Among the variants of this name the head occurs as a hieroglyph, showing that it has the value *ba*. The long neck also agrees with the panther and not with the lion. Among the offerings in early mastabas is *ba res*, along with clothing; this therefore refers to the "panther of the South," well known in later inscriptions. The author does not explain how and when the value *peh* arose.

BES, SHOWING SKIN WORN ON BACK, FASTENED BY GIRDLE.

Wood. University College.

Nature et origine du dieu Bes. A general opinion that Bes was a leopard rests on an error of reading at Beni Hasan, where *ba res* has been read as one word, *basu*. Pleyte supposed that a panther-headed god in Chapter CXLV of the Book of the Dead was Bes, but there is no name to it, and thus no connection with Bes. The figures of Bes on the ivory wands of the Middle Kingdom and the furniture of the Empire, are all entirely human except the head, and an animal tail. In the later times the figures became more complex, owing to the symbols of other divinities being added, such as the plumes of Onqet, a triangular harp, shield and sword. All accord with Bes being a negro dancer, as African dances are usually with arms and the panther's skin worn by the greatest warriors. The Metternich Stele and other instances show that the head of Bes is a mask, placed separately over the head of Horus.

Thouéris. This was a kind of protecting genius, known by appellations, such as *Ta-urt*, the great, *Rert*, *Apt*, or *Sheput*. This genius, like Bes, had no regular

worship as other Egyptian divinities had, and this peculiar position connects the two. The figure, though based on the hippopotamus type, is not, like other animal gods, a true copy; the head is not true, the paws are leonine, the breasts are human, the back is a crocodile's. As Bes is a dancer in animal dress, so probably Taurt is similarly a woman with animal attributes. The conclusion is that they were not divinities, but magicians in animal dresses employed in ceremonies for the benefit of children. Both came from the Upper Nile or Central Africa.

A propos d'un tableau funéraire. On one of the Gebeleyn sarcophagi of the Middle Kingdom is a scene of the dead man lying on a bier, two women mourners, one at the head the other at the feet, and a smaller figure of a woman in the air, looking toward, and parallel to, the dead. Steindorff looks on the mourners as the usual funeral mourners. Wiedemann looks on the upper figure of a woman as that

POTTERY COUCH AND FIGURE.
Early XVIIIth dynasty. University College.

of one destined to be buried with the dead. After disposing of some mistaken analogies, the author turns to the female statuettes often found in graves of the XIIth–XVIIIth dynasties. He states that they have nothing Egyptian, at least in their origin. There are two classes of these figures, one rudely made in pottery, with very long limbs, evidently not Egyptian, and the other, in limestone, well proportioned, but with legs ending at the knees. The latter are attributed to the Empire. There is also another category, not mentioned by M. Jéquier, of finely made red pottery figures of the thin graceful type, full length, and associated with double couches in pottery, manifestly as wives of the dead. These are of the XVIIth–XVIIIth dynasties. It should also be noted that the second category above is found certainly in the XIIth dynasty, made in blue pottery and in wood.

The source of figures described by M. Jéquier is distinguished by him from the Babylonian mother-goddess figures, and they are unlike the Greek island figures. He suggests therefore Syria as a source for the idea. He discusses the analogy to the Saite figures of a female on a couch, but considers that the resemblance may be accidental. Some of the earliest class, the rude grey pottery figures, have an infant on the back. He concludes that as these figures are foreign and have no place in the ritual, therefore there is no ground for comparing them with the representation from Gebeleyn. He then connects that scene with the figure of the *ba* hovering over the mummy; and the two mourners with those who personified Bes and Nebhat. The only difficulty is that the figure is feminine over a bearded mummy, while the *ba* is always masculine.

With regard to the pottery figures they may very well originate in Syria as M. Jéquier suggests. They certainly are as early as the XIIth dynasty, and the fall of the VIth dynasty was associated with a Syro-Mesopotamian invasion. The use of soul-houses, with slave figures and furniture, also belongs to the same age, and is analogous to the pottery figures for the dead.

LACAU, P.—*Textes Religieux.* This is an arrangement in parallel lines of the texts of four sarcophagi from El-Bersheh, principally of value for research in equivalent signs and readings.

MASPERO, G.—*Une transcription en . . . νδύας du nom de* . The rendering of the god by Μανδοῦλις points to Osymandyas being a real equivalent to User-ma-ra, becoming *νδ* in certain cases in Upper Egypt.

MASPERO, G.—*Introduction à l'étude de la phonétique Égyptienne.* This paper of 55 pages is part of the foundation of a wide grammatical study of the Egyptian language, which would have been one of the greatest works of this master. How far it may have been written is not yet known. We hope everything available will be given to the public. As a study by the most sympathetic interpreter of Egyptian ideas, singularly free from theory, it would probably reach nearer to the usages, varying in time and region and gradually unifying into rules, than any positive system. In every way it was needed as a counterpoise to the self-sufficient, mechanical, ultra-Semitic school of Berlin. In the Introduction the master says, that although much has been published on grammar in France, England, Italy and Germany, "I think that we do not yet know enough to succeed," so he will only write an Introduction to the study of the grammar. "We have had the chance to find a clear field as to language at the beginning of our science, and we have attacked the decipherment without the encumbrance of preconceived theories or established paradigms; shall we not better profit by the absolute liberty with which fortune has favoured us, by creating a grammar of Egyptian which will not be inspired solely by classical models, or Indo-European, or Semitic, but which springs entirely from an analysis of the texts, aided by all the means that philology can lend us, to whatever kind of language it is applied?"

The historical scope of the enquiry is limited to the period from the XVIIIth dynasty to the present time. [This no doubt will be anathema to those who join their conclusions entirely to the theoretic beginnings shown by the most primitive texts. We must avoid a confusion of ideas. Will future students of English deal best with our literature by insisting on the earliest Teutonic or Gothic values applied

to our present writings, or by beginning with the Elizabethan? The primitive stages of a language are of the utmost value; but they are quite unfit to be the arbitrary standard for its developed style.] The order in which the sounds are studied is labials, dentals, gutturals, and sibilants.

□, . At the XVIIIth dynasty this is both *p* and *ph*, and by Saite examples it was probably *p* in South, and also in North when unaccentuated, but otherwise *ph*. Under Arab influence it has become *b* in Southern Coptic, but remains *ph* in the North.

In the geographical lists, from the XVIIIth–XXIInd dynasties, it is equal to the Hebrew *pe*. In some cases as in *kafr*, the *pe* is rendered , although the *pe* usually is rendered *ph* in translation. In cuneiform from the XVIIIth to XXVth dynasties it is always equal to *p*.

The Greek values give some light on the varying values. At Memphis, Herodotos renders the sound *ph*; at Thebes, Hekataios got the sound as *p*. Both forms are found in Ptolemaic Greek transcriptions, and also *b* as in Boubastis, Bouto, Anubis. In Coptic, *p* is southern and *ph* northern, both merging into *b* in late times. All these results are reached by the large number of examples quoted in the paper; here only the barest summary can be given.

. Probably the double sign or is the full *b*, while the single sign is *v*, which probably weakened to *w*. In Arabic times the *b* passed into *v*. In Hebrew, the *beth* is always rendered thus. In cuneiform it is always *b*, and also in Herodotos. In later times it passed to the digamma, or was entirely lost, as in Pouasti for Bubastis, Harmais for Heremheb, and Soukhos for Sebek. It became confused sometimes with *m* as Meroe for *Berua*, Pakhnoubis and Pakhnoumis. In Roman names it is regularly equal to *b*. The transition to *v* was common in Coptic. We know of the use of *b* for *v* usually in late Latin.

 had always a single sound, between *p* and *b*. It is used for an aspirated *pe*, Hebrew, as in *kafr*. Cuneiform not having *f*, rendered it by *p*. The Greeks rendered it by *phi*, and at the end of names by *beta*. In Ptolemaic it is always *phi*. In Coptic it is *f*, and in Arabic *fe*.

The four dentals probably cover seven or eight different sounds, according to period.

. This was usually rendered *t* in cuneiform, rarely *d*. In Hebrew it was equal to *tau*, and rarely to *teth*. In the Saite Age it was in Greek rendered *tau*, but before an aspirate it became *theta*.

The *ta* land sign is sometimes used for *delta*, and *t* or *nt* for Latin *d*. The late Greek *theta*, pronounced almost as *t*, was also rendered by . In Coptic it became confounded with *theta* and *delta* sounds, the latter written with *t*. The true *t* only remained in final letters.

, originally *th*. This early became equal to on the one hand, or on the other or . The Hebrew *tau* is rendered by both and . Brugsch gave many examples of becoming *çad* or *shin*. These are examined in detail, and reduced to the conclusions that it was never *çad*, and that in Saite to Roman times it was usually a variant of , but sometimes kept its early hissing sound, and then became *z* = *janja* = *sigma*.

is rendered *z* in cuneiform, and used for Hebrew *tzade*. At the same time it became confounded with and .

. Originally in the XVIIIth dynasty this was *ts* or *ch* as in *ch*ild. In late times *ts* passed into *delta* and *theta*, and further into *tau*, *sigma*, and *janja*. In the geographical lists and are usual for *tzade*, more rarely for *zain*; and in cuneiform *tzade*. The in Old Kingdom words appears in the Middle Kingdom and Empire as , and further passes into , and this transition is also shown by cuneiform equivalents. The change into *d* and *t* was more rapid in Ptolemaic and complete in Roman times, while in Coptic it passes into *janja* mainly in the North but *g* in the South.

. In the XVIIIth dynasty the equivalent is *daleth*. It does not happen to occur in early cuneiform, but in the XXVth dynasty it is rendered by *teth*. Aramean continues to use *teth*. Later the plain value *tau* arrives. In Ptolemaic names it is generally used for Greek *tau*. In Roman names it is *d* or *t* equally.

Gutturals and Aspirates.

, and the vocalised variant , covered two values in the XVIIIth dynasty, both *k* and hard *g*. In the geographical lists it is used for *kaph* and also for *gimel*. *Gimel* appears to have become hardened, and then was used for it. The early cuneiform renders and by *ku*, or sometimes *gu*. Under Sheshenq the continues as *kaph* and sometimes *gimel*. In the XXVth dynasty the cuneiform uses *ku*, or sometimes emphasises it as *uk-ku*. In Greek, *kappa* was usual, but *khi* appears owing to the variable usage in Ionic. In Ptolemaic both equivalents were used, but *khi* regularly for in royal names. From the Saite Age, perhaps from the XVIIIth dynasty, there were two sounds for the southern *k* the northern *kh*, both of which passed into Coptic. The fixed system of hieroglyphs prevents changes being apparent, much as the fixed spelling of English hides phonetic change now; but the variants of changing with shows how far the unwritten modifications had gone.

 was probably very close to *qoph* and *koppa* originally. In the geographical lists it is usually the rendering of *qoph*, but occasionally of *gimel*. The cuneiform of the XXVth dynasty always renders it as *q*. The Greek varies between *k*, *g*, and *kh*. In the Ptolemaic words complete confusion is seen between , , and , though each was continued generally in the words where first used. In Roman spelling all were interchanged. In Coptic, owing to being reduced to , it became *k*, which normally passed to *kh* in the northern dialect. also became *g* in both North and South, and as such it also passed into the equivalent *janja*.

 seems to have included two sounds originally, the usual hard *g* and a guttural *g* as in German *Tag* or Arabic *gheyn*. By the first value it was confounded with , and by the second with . The geographical lists express *gimel* usually by , less often by ; but is used where the Arabic form has passed into *gheyn*, as for Gaza. [This suggests that the real local pronunciation has been only approximated by Hebrew and other writing.] This special sound was rendered in cuneiform by *kh*. It seems that was used for a guttural like *gheyn*, usual among the Rutennu, who perhaps were non-Semitic. But it is rare in the South Syrian names. In the lists of Sheshenq it is usual for *gimel*. In Ptolemaic and Roman use , , and , were used indifferently. In Coptic the southern equivalent is *shima*, while the northern is *janja*.

. In geographical lists this is used for Semitic *he*. In cuneiform, having no *he*, the *heth* is used instead; in its stronger form equal to the Arabic *kha*. In the XXVth dynasty the only instance of is either ignored or represented by a lengthened vowel. The Greek uses a simple vowel, *a*, *e*, or *i*, at the beginning of words. In the Ptolemaic writing the Egyptians used as an auxiliary to *p*, *t*, and *k* to equate with the Greek *ph*, *th*, and *kh*. They also used it for the Greek initial aspirate. It always was kept distinct from , even in late hieroglyphs. In Coptic it always corresponds with *h*.

was a strong *h* like *heth*, or *ha* in Arabic; but it approximated so much to that when the Coptic alphabet was started one sign sufficed for both. In the geographical lists it is always the rendering of *heth*. In early cuneiform it is the same, and continued in the XXVth dynasty and in the Aramean. The Greeks in beginning words used the hard or soft breathing, or omitted it entirely in the middle of words. [This shows that it weakened to the value of .] Rarely it is represented by *khi*. In Ptolemaic the same treatment continues, but where it is preceded by the article it coalesces to form *phi* or *theta*. In the demotic an actual inversion takes place, and the Greek aspirate is rendered by .

and . As early as the Pyramid Texts was interchanging with commonly; yet in Coptic it only occasionally becomes *sh*. The primitive value of appears to have been between *sh* and *kh*, much like the German soft *ch* in *ich*. The value of is more the hard *kh*, as in German *buch* or the Spanish *j* as in Jeres.

In the geographical lists is never used; but and are frequent as equivalents of *heth*. In early cuneiform, *kh* is used for as well as for and ; and in the list of Sheshenq *heth* is rendered by , , and , but never by , , or . In the XXVth dynasty *kh* is used as before. Apparently, all the aspirates were softening then into one weak form, and was becoming . It remained as *kh*, however, in the royal names in Herodotos. But in Ptolemaic it becomes *s*, as in Manetho. The discussion of the Coptic forms of *h* and *kh* is complex, and does not reflect upon the earlier language.

Sibilants.

and , though partly distinct in Pyramid Texts, yet interchange there to some extent. By the XIIth dynasty there was no difference except in the convenience of grouping the signs. In the XVIIIth dynasty there is only pure convention. The united and are used for both *çad* and *sin*; on the other hand the early cuneiform renders them by *shin*, as also in the XXVth dynasty in most cases. In all Greek and Coptic renderings these are *s* only.

. The sound of this and the syllabics , , was as the *sh* in fre*sh*, or *sh*ield, the *shin* of Hebrew and Canaanite in the names of the lists, and in the cuneiform, though occasionally rendered by *sin*. In Greek it was rendered *s*. In late Greek the *shin* was rendered *sz*.

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Vowels properly so called.

The first stage is to discriminate the real values in Coptic. *Alfa* has two values, *a* as in Antioch, *aw* as in war, water. This appears clearly in spelling Morkos for Markos; but at the start of Coptic it is always the same as *alpha*. The long *ā* of the XVIIIth dynasty may become *a* or *ou* in the XXVth or Greek. The short *ă* may become *é* or *i*. The general course is that *ā* becomes *ou*; *ă* remains *ă*, but may become *ŏ*; *a*, unaccented, changes to *e*.

Ei is always sounded *a* in present Coptic; *alpha* and *epsilon* in Greek both pass into *ei* Coptic.

Yoda is written *ei* initially. It comes probably from *e*, and that earlier from *ă* or even *á*.

Long or short *o*, *ô* or *ŏ*, *oû* or *aŭ* are indifferently *ou* or *au* in present Coptic. In the early Greek and in the XXVth dynasty Assyrian it varies as *ou*, *o*, or *ô*.

He or *hu*, in North Coptic *hé* or *khé*, is an early Coptic variation of *u*. Though the *upsilon* in Archaic Greek was *ou*, yet it was early shortened to *i*, as it is now.

The diphthongs and double vowels in Coptic are fully discussed, but they do not lead to conclusions on earlier vocalisation. It is concluded that a variation of probably eighteen or twenty vowel sounds in the XIXth dynasty have become reduced to ten in the Coptic.

Signs corresponding to Egyptian Vowel sounds.

This section deals with the changes back to the XVIIIth dynasty. We must clearly distinguish between *sound* changes and *sign* changes. For instance, in English, *a* represents half-a-dozen sounds, which have nothing in common with its Anglo-Saxon or Low-German value. Yet *a* is not a "vague vowel" or a "feeble consonant."

First will be studied , , . The signs and will be treated later as sonants. and are only vocalised duals. is a cursive form of . In late writing is substituted for as determinative of the word . A long history is given of the views of Champollion and later writers.

The use of vowel signs has nothing to do with race, or the origin of a language. In Malagasy or Javan the Arabic alphabet is used, regardless of the nature of the speech. The Hellenes used the Phoenician alphabet, and the Achaians used the Cypriote syllabary. The Canaanite, Babylonian and Assyrian languages were all Semitic, and yet used a cuneiform syllabary which did not confound vowel values, but used separate signs for each vocal syllable. Therefore the question of the presence or absence of true vowel signs in Egyptian is quite distinct from the other question of a Semitic connection of the language.

The late changes of a vowel are no evidence that such variation was original. The Latin *a* has passed into *ā* in *Paris*, *ă* in *Parisii*, *é* in *père*, *ai* in *main*, *ie* in *chien*, *au* or the sound *ŏ* in *chaud*, should we therefore say that in Cicero's time *a* was a "feeble consonant" or a "vague vowel"? No more true is it to assert this of because of its varying descent in late forms and in Coptic.

"For me, as for Naville, for Golénischeff, for all those who refuse to admit the imperative affirmations of the Berlin school, Egyptian has possessed original vowel

signs of the same nature as the modern; but as its graphic system was almost entirely fixed at an early date, while the spoken language followed its own course, the written language has obstinately preserved its forms; and the vowel signs—for the reasons we have noticed—have taken, historically, various values which do not always seem to belong to the primitive value." "We can go back by degrees to the XVIIIth dynasty, through Coptic, Greek, Assyrian and Canaanean transcriptions, but beyond that we have nothing but hypotheses, more or less strongly influenced."

[We might remark, also, that we know nothing of the grammar or sounds of Western Semitic before the XVIIIth dynasty, except by theory and deductions projected back from that Age. To extend such theorising back thousands of years before the earliest facts known to us, and then to force Egyptian of the Ist dynasty to fit the theories which have been constructed, is a process which seems bound to produce fallacies. The continuation of the above article only begins the subject of , it will therefore be summarised along with the future continuation.]

SOTTAS, HENRI.—*Une petite horloge astronomique Gréco-Égyptienne.*

KUENTZ, CHARLES.—*Note sur un gnomon portatif Gréco-Égyptienne.*—These two articles deal with the small dial published by M. Clédat. They explain at great length (18 pp.) what has been already stated in half-a-dozen lines in ANCIENT EGYPT, 1915, p. 184. We read: "Cet instrument est sans doute déconcertant de prime abord, car la forme qu'il présente n'a jamais été jusqu'ici rencontrée autant que je sache." Yet in 1894 such a dial was sold in the Hoffman sale in Paris, Lot 456, and fully described and illustrated in the catalogue; also a similar dial has been for many years on view at University College. It is, therefore, well-known to many persons. It is assumed by the writers that the gnomon must have been a solid rising from a base to an edge or a point. This is not necessary; any point fixed in space to cast the shadow would suffice; and as the dial at University College has a socket on the top, it seems likely that a statuette upon it held a spear, or some object, forward to cast the shadow. As the dial is quite independent of direction, and only needs to be levelled, a single point could cast a shadow on any of the month lines.

The fresh idea here lies in a suggestion by M. Loret, that the hieroglyph is such a dial as this, with a block gnomon and a plummet hanging from it to level it.

MASPERO, G.—*Quelques divinités dans les arbres.* Besides the Osiris enclosed in a tree trunk, there are other tree deities. On the shrine of Saft is a "Hathor in the *nebs*" or *zyzyphus*, different to the Hathor of Memphis, "lady of the *nehet*"; also a Heremakhti lodged in his tree; a Shu; the two lions of Heliopolis, Shu and Tefnut, in a chapel hidden by a tree. The *nebs* also gave its name to Pnubs, or Dakkeh in Nubia, where Tehuti was worshipped; moreover in Pap. Sall. I, Tehuti is a species of palm. [There was also a palm-goddess in Roman times found figured on terracotta images.]

DARESSY, G.—*La classement des rois de la famille des Bubastites.* In this article the conclusions of M. Gauthier on this complex subject are discussed. The difficulties arise largely from the same name being repeated in different generations with small differences; also from the isolated nature of the facts, without any

original document of an extended period ; and further from there being concurrent lines of descent in the Thebaid and the Delta. The complication has now reached a fresh stage by M. Daressy claiming as obvious no less than three confusions of different names by the scribes. With three errors assumed, a great deal can be done in fitting any system. It looks as if the matter is insoluble without some further documents to decide points. The most promising treatment would be to write out each document on a separate paper, to the same scale of generations, and without any assumptions or completions of cartouches, and then try to fit the isolated scraps into order. In the present state of the subject it does not seem of use to try to give an abstract.

MASPERO, G.—*Hérodote, II*, 150. This legend that the Fayum lake discharged into the Syrtis of Libya, underground, is parallel to present beliefs. There is a village four miles south of Philae, on the west bank, at the foot of Gebel Shemt el-Wah, called Nazlet Shemt el-Wah, where it is said that a subterranean branch of the Nile runs to the Oasis of Dush. In that oasis, near the spring, the people showed—about ten years ago—pieces of a boat, with an anchor, and said that they had come through underground from the Nile, and that they had also received other wrecks from the Nile by that way.

CLÉDAT, JEAN.—*Nécropole de Qantareh.* This is an account of excavations in a cemetery extending east of Qantareh, up to the ruins of a town two miles eastward at the north end of Lake Balah. This town is claimed as being Zaru, but no evidence is given for this identification, though it seems likely enough. An obelisk is marked as existing there before the Canal, and two sphinxes are reported there thirty years ago ; but no trace of these can be found at present. Seven pages are given to describing the cemetery and groups of tombs ; but whether the ushabtis are of the relief style with back pillar (XXVI–XXX) or only painted (before XXV) is never stated, nor is there a single drawing of the vases or other objects found ; the account is therefore of no archaeological value. In a few tombs amulets were found, but the materials are not stated. From scanty remarks indicating the period, these seem to be about the XXXth dynasty and early Ptolemaic Age.

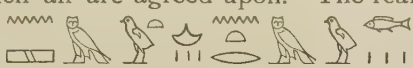
MASPERO, G.—*Sur le sens juridique de* . This paper re-states the interpretation of *măo-kheru* as a legal term, a position assumed to be new in Dr. Gardiner's *Tomb of Amenemhat.* "On oublie si vite en égyptologie ce qu'on a lu, et, pour peu que l'écrit soit ancien, on néglige si résolument de le lire, que ce sera une surprise pour tout le monde et pour M. Gardiner lui-même d'apprendre que j'avais eu la même idée que c'est une de celles qui ont déterminé mon interprétation, et que je l'avais indiquée, il y a plus d'un quart de siècle, dans un mémoire *Sur l'expression Mâkhróou*, qui, composé en 1880, ne fut, par accident, publié qu'en 1892." Sir Gaston's position is, that though meaning "with the right intonation," the truth of voice was a necessary part of the legal justification. All ancient laws were mixed in a kind of ritual—what referred to property and what referred to sacrifices or to the dead. A passage in Aelian implies that the old laws were rhythmic, and Aristotle says that they were chanted before they were written ; hence called *νόμοι* in Greek and *carmina* in Latin. Such a chant was not complex, but like the Oriental recitations. A just voice was needed therefore, and an exact wording for a legal formula. [We have likewise the "patter" of an old formula embodied in

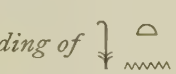
the marriage service, "to have and to hold from this day forth, for better for worse, for richer for poorer," etc.] Hence the view that the truth of voice, or exact knowledge of the magic patter was necessary to avoid embarrassments in the future life, and he who knew the right jargon completely was thereby justified by his true voice. To be "true of voice against his enemies," meant that he had the right sing-song to subdue them. [This is like a Norse ceremony: "Then Kotkell had a great spell-working scaffold made, and they all went up on to it, and they sang hard twisted songs that were enchantments. And presently a great tempest arose. Thord . . . . continued out at sea as he was, soon knew that the storm was raised against him." (*Laxdale Saga*, XXXV). Here doubtless the "true voice" was as essential to the spell to overcome the enemy as it was in Egypt.]

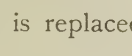
CHASSINAT, ÉMILE.—*La mise à mort rituelle d'Apis.* This opens with the passages from Pliny, Ammianus, and Solinus, stating that the Apis bull was drowned after a term of years. Plutarch states that the term of years was 25. Two Apis bulls are stated to have exceeded this. One is stated to have lived 26 years; another was born in the 11th year and died in the 37th year of Sheshenq IV. [Either of these might have only just exceeded 25 years, and if the drowning was at high Nile, the few weeks or months over 25 years would be within the rule].

It seems established that the Apis was Horus during his life; see "The majesty of Apis went to heaven, it is Horus who became Osiris," and other such references. Apis was also assimilated with Atmu, with Ptah, and with the Nile. He became Osiris after his death. The conclusion is reached that Apis was originally a Nile-god.

The title part of the paper is reached after twenty pages of the previous dissertation. It depends on the statement that Apis and also the Hathor cow "went to *Qebhu*, his spirit mounted to heaven and joined itself to Ra." *Qebhu* is the cataract region, also the name of a sacred lake or well at Letopolis, Heliopolis, Edfu, and near the Apis temple at Memphis. Naturally, all such places were cool or refreshing. On the strength of this, stated in ten pages, it is proposed that the bulls were drowned. Yet the last quotation of all, that Sety I "went to *Qebhu*, joined the sky, and was united to Ra," cannot mean that Sety was drowned; and, if it describes the natural death of the king, why not of the bull also?

LORET, VICTOR.—*Le titre* . This paper largely quotes passages illustrating the sense of the first three subjects, horned cattle, hoofed cattle (as asses) and birds, which all are agreed upon. The really original point is that the last sign occurs in  (*Pap. Berlin* 3027) and similar in Pap. Nebseni. Hence the reading of is *neshem*, a fish scale, and the sense of the whole title is overseer of cattle and ungulates, birds and fishes.

BLACKMAN, AYLWARD M.—*On the reading of*  *as "nyśwt."*

GARDINER, ALAN H.—*Additional Note.* These notes refer to the *nesut* reading as supported by a play on words of *mysut* parallel to *nesut*; and, above all, by the coffin text, in which  is replaced by . (Lacau, in *Recueil*, XXXV, 228.)

REVIEWS.

Ancient Times: A History of the Early World.—By JAMES HENRY BREASTED. Sm. 8vo, 731 pp., 8 coloured plates, 276 figures, 38 maps. 1·50 dollars. 1916. (Ginn.)

The author, whose great services to Egyptian literature are so well known, has here put all teachers of history in his debt by writing what has long been wanted—a history of civilisation. To compress all the course of events before Charlemagne into a pocket volume, and give a connected view of the whole human movement, is a feat of skilful omission of detail: much that we know—sometimes with a painful familiarity—has disappeared. In its stead we have a broad view of the general character of each age, its growth from the past, and its relation to the future.

The pre-classical world, Greece and Rome, have equal shares of attention. The mere political events are subordinated to the larger questions of the nature and outlook of the civilisation: why in each age men thought as they did, how they were conditioned, what their capacities were, how they met the changes in the world. A fore-runner in such a treatment is Mrs. Armitage's *Childhood of the English Nation*, a history of motive and immediate reality.

Our concern here is more with the section on Egypt, which fills sixty-five pages. Only nine names of kings occur in the whole. The Hyksos are never mentioned, which is as well, for there is no room for them in the Berlin chronology used in this book. It is rather hard on the unsuspecting reader not to have the slightest hint that the Egyptians recorded their dynasties as beginning over two thousand years before Berlin allows of their existence. Less than one page deals with the long pre-historic ages and the rise of the civilisation. Six pages describe the rise of hieroglyphs. Four pages are given to the calendar and other pre-pyramid knowledge. All this part seems meagre for describing one of the growths of civilisation which is best known in its details. Twenty-five pages describe the greatest period, that of the Old Kingdom, well illustrated and vividly treated. It is unhappy to find put here glassware of the XXVIth dynasty and a house restoration of the XVIIIth. Then come six pages on the Middle Kingdom, where some of the scenes of Beni Hasan, instead of an XVIIIth dynasty papyrus, would have been an improvement. The Empire has twelve pages and six of the plates. Three pages on the later ages, and three more on the writing, complete the account. Of the nine pages given to the mode of writing we would gladly give up most in exchange for some of the literature which the author has at his fingers' ends, and an account of the growth of the arts through the prehistoric ages. As an outline of the successive civilisations of Egypt, this account is a successful and original piece of work. We may note on p. 54 that deep graves did not precede the discovery of metals; also one pyramid figured never existed, as there is none known between the coated step pyramid of Sneferu and the greatest pyramid, of Khufu. The description of a step pyramid as "made by placing a series of tombs one above another" should be amended, as there is only one tomb, and the series is of successive coatings around it. The German fallacy of figuring palms around the temple of Khafra is copied; in reality that ground was far above the level of vegetation in the early time. A misprint in fig. 72 needs notice.

A special feature is the fulness of the series of maps, designed on purpose to show the stages of political power of each country, and mostly original, though the early state of Sumer and Akkad has been lifted unacknowledged from Prof. King. It is much to be hoped that this book, with, perhaps, a little redistribution of subject, and replacing English for American comparisons, may come into use for historical teaching in Britain.

The Oxyrhynchus Papyri, Part XII.—By B. P. Grenfell and A. S. Hunt. 1916. (Egypt Exploration Fund.)

Another welcome instalment from our two scholars, who maintain the credit of England as the foremost country in this subject. This volume is unusually full of interest on social history, the heads of which we notice here in order to direct readers to the material.

It opens with a harsh illustration of the severity of the claims for public service. A man was appointed tax-gatherer for a village, and rather than face the trouble and obloquy, with the probability of ruin, he preferred honourable ruin to begin with, and renounced all his property to the emperor. The next step was the Imperial appointment of the man who originally proposed the renounced tax-gatherer, giving him the property and requiring him to do the duty. It seems as if thus the duty could be pushed through several hands, accumulating property by ruining the men as it proceeded, until at last there were enough confiscated estates attached to the duty to make it pay someone to do it. This shows the terrible economic state of Egypt, that as early as A.D. 201 the public claims could ruin an innocent man by being thrust upon him.

Home rule in Egypt is illustrated by a decree of Caracalla, within a few years of the granting of municipal senates: "If a senator strike or censure in an unseemly manner the prytanis, or another senator, he shall be deprived of his rank, and set in a position of dishonour."

The public safety was in a bad way, as about A.D. 213 a decree was put out by Baebius Juncinus: "I have already, in a previous letter, ordered you to search out robbers with every care, warning you of the peril of neglect, and now I wish to confirm my decision by a decree, in order that all inhabitants of Egypt may know that I am not treating this duty as an affair of secondary importance," etc., etc. This is followed by another proclamation: "That it is impossible to exterminate robbers apart from those who shelter them is evident to all, but when they are deprived of their helpers we shall quickly punish them. There are many methods of giving them shelter; some do so because they are partners in their misdeeds, others without sharing in these, yet . . . . ." This is the documentary background for Achilles Tatius.

As in modern times, money was the universal key in Egypt, and the buying exemption from the corvée was so usual, that strict orders were given for the corvée on canals, "to see that the overseers usually elected for the purpose are chosen from magistrates or private persons who will compel everyone to perform his proper work by personal service, according to the rule given in the constitution of the appointment, with no malice or favour, ... and that absolutely no money is exacted from anyone in place of work. If anyone dare to attempt exactions or neglect these orders, let him know that not only his property but his life will be at stake."

The continual depreciation of the Alexandrian coinage even led to hoarding the old Ptolemaic tetradrachms, the forebears of the wretched copper dumps of

the third century. The coinage was bad enough under Gallienus, but when the further debasement of the usurpers Macrianus and Quietus came out, the banks closed in despair. Promptly came a proclamation of the governor: "Since the officials have assembled and accused the bankers of the banks of exchange of having closed them on account of their unwillingness to accept the divine coin of the emperors, it has become necessary that an injunction should be issued to all the owners of the banks to open them, and to accept and exchange all coin except the absolutely spurious and counterfeit; and not to them only, but to all who engage in business transactions of any kind whatever, knowing, that if they disobey this injunction, they will experience the penalties already ordained for them in the past by his highness the praefect." The milreis of Brazil was quite outdone in baseness by the nominal currency of the fourth century, in which 2,250,000 denarii, or 1,500 talents, was to be paid for a new carpet, really worth about £10.

The reports of the Senate of Oxyrhynkhos give a curious living view of affairs. The prytanis had called an emergency meeting to settle some immediate business, and on his stating it in general council, "The senators said: 'Invaluable prytanis; save yourself for us, prytanis; excellent is your rule.'" He then tried to resign at the end of his term of office. "The prytanis said: 'The law commands us that the coming prytanis should be nominated six months beforehand, I remind you.' The senators said: 'The nomination is made with a resolution.' The prytanis said: '. . . . for I have long been ill, and have a cough from my lung, as you know.' The senators said: 'Illustrious prytanis, noble prytanis, still labour for us; labour in a manner worthy of the past.'" All this is much like the acclamations of the Roman senate in the Augustan histories. "The gods continue Claudius our Emperor to us. This was repeated sixty times. We have always wished to have Claudius to be our Emperor. This was repeated forty times, etc." These repetitions probably mean the number of senators who joined in the shout, for it is impossible to suppose phrases said by the same persons sixty times.

The burden of public office was often evaded. "Two communications from the strategus having been read, one concerning the appointment of a substitute for Actiasion, convoying collectors of wine, who had absconded, the other concerning the appointment likewise of a substitute for Theon, senator, convoying collectors of barley, who had absconded; after the reading the prytanis said: 'Appoint persons to do the duty in order that the carriage of the annona for the most noble soldiers may not be hindered.' The senators said: 'Let them not be nominated beforehand . . . lest they run away.'" When one was nominated to office, "Ptolemaios, son of Damarion, chief priest, said: 'I entreat you, I cannot serve. I am a man of moderate means, I live in my father's house.' The prytanis said: 'Ptolemaios still requires to be pressed by you, for he, too, shrinks from so great an office.' Endaimon, exegetes, said: 'Ptolemaios, too, is a man of moderate means, and unable to bear the burden.' Ptolemaios, son of Damarion, said: 'The office is beyond my powers.'" Thus they went on endeavouring to avoid the ruin which public duties entailed. Using influence was as customary as it is now. "To my lord and brother Heras Ammonios, centurion, greeting. The bearer of this letter is my tenant. He states that he has been appointed to a public office at the village of Dositheou, namely, the collectorship of tunics and cloaks, but has not yet been entrusted with the collection. Accordingly, use all your efforts, brother, to rescue him from the office," etc.

The cumbrous notation of years by reigns or consulships was gradually replaced by fixed eras in the fourth century. As was natural, various attempts were made

before general consent was reached. A list of the seven different eras used shows the number of instances, and practically they come to two—A.D. 307 and 325. Now these seem to be the Pagan and Christian reckonings; Licinius, the last of the Pagan series, became emperor on 11th November, 307, and Constantine gave the official triumph to Christianity by the Council of Nicaea, May to September 325. The editors note the latter, but omit the Pagan dating point. The datings given by horoscopes prove of importance for rectifying the uncertainties of the period from A.D. 250 to 284. A full discussion of the material is given, which needs tabulation; the crude result is that Gallienus only reached his fifteenth year, and we must allow a third year to Claudius and a seventh to Aurelius.

The lists of taxes show the network which restrained enterprise. The individual paid his poll-tax. On lands were the State land tax, vineyard tax, garden tax, and bare land tax. On produce, the corn dues were most important as feeding Rome; pigs, asses, trades, and specially cloth weaving, were taxed. For special officials there were taxes for the desert guards, the prison guards, the eclogistes and the idiologos. The labours of embanking and of public earthworks (*naubion*) were commuted for money. The baths paid a third, receipts paid, and a charge was made for public libations. All intercourse with different parts of the country (as in Italy a century ago) came under the customs dues and an export tax of two per cent. Many other obscure taxes also appear, and emperors and high officials had a gratuity in lieu of being presented with a golden wreath on taking office.

Under Caracalla there is an interesting list of the temples and their property. Among the gods is a Syrian Atargatis Bethennunis, *i.e.*, of the "House of the Gracious" or "Merciful," a title of Derketo there; probably this is Beit Hanun, 2½ miles N.E. of Gaza. This is about three miles from the mouth of the valley which was probably the fish pond sacred to Derketo, behind Ashkelon, described by Diodorus (II, 1). The temple property was sometimes recent, but "in other cases we are ignorant of the dedicators, because the offerings have been in the temple from antiquity." We may note a statue of Demeter, the bust of Parian marble, the figure of wood; a bust of Parian marble with amulets of plaster; of gold, are sacred lamps, ten armlets for a child, two spoons, one small gold pen; of silver, are bracelets, armlets, a toy mirror, and lamps. A lamp with a statue of Kore of unstamped silver, weighing a pound, plated on wood; a gold lamp; an altar of silver weighing 1 lb. 5½ oz.; a statuette of "the most great goddess," weighing 15 lbs. In the villages of the nome, at Sinaru, a representation of Caracalla, Severus and Domna, "a dark red covering, decayed and useless, one bronze folding mirror in new style." At Ta . . . a representation of Caracalla, Severus and Domna one bronze trencher, statuettes of Zeus and Hera. These representations (*ἰκονείδιον*) of the imperial family were distinct from a statue (*ξόανον*) or statuettes (*ἀνδριαντάρια*). They may have been painted panels, like the well-known portraits, as they were placed apparently in every village of note. This inventory gives a curious view of the state of the local temples before they were pillaged.

An interesting document on the independence of educated women, is a petition for the recognised rights. "Laws have been made, most eminent praefect, which enable women who are honoured with the right of three children to be independent, and act without a guardian in all business which they transact, especially those women who know how to write. Accordingly I, too, fortunately possessing the honour of being blessed with children, and a writer who am able to write with the

greatest ease, in the fullness of my security appeal to your highness," etc. The good lady was Aurelia Thaïsous, also called Lolliane; she was the daughter of the clerk of the market, and probably learned business in her father's office. Four years later she does her own business in buying back a lot of family property, which is carefully specified down to "a tank in disrepair, and the water-wheel, likewise partly in disrepair," specifying exactly the date of division of taxes and of produce. She then paid twelve drachmae tax to have the deed registered.

Another curious point of woman's law is, that as the husband was responsible for his wife's debts, the way to clear up a bankruptcy was to divorce the wife with her dowry, let her go bankrupt on her own estate, lend her money to clear up the accounts, and then re-marry her with a pre-nuptial lien on her property, in order that, in case of a serious divorce later, he should not lose his claim to repayment. The legitimate rights of their son were duly guarded in the various documents. Also, in case he levied on her property, due alimony out of it was to be allowed. A copy of the wife's declaration is included: "As I know how to write, and am making a marriage-contract with my former husband Horion . . . ., by the terms of which Horion obtains security for the sums which he lent me," etc. This is a strange mixture of matrimony and business, but it shows what precautions are needed in a Married Woman's Property Act.

Lastly, there is a strange list of questions to an Oracle, and a charm for racing in the name Sulikusēsos, which suggests some compound of the Celtic gods Sulis and Hesos. Altogether it is a volume of general interest, apart from the many technical questions of government and currency in which it assists.

The Geography and Geology of West-Central Sinai. By JOHN BALL, D.Sc., etc. 219 pp., 54 figures, 24 plates. 8vo. 1916. Cairo, Government Press, 30 P.T.

This volume is a generous gift to science by the Survey Department, treating a very interesting region in detail, and providing a fine map, 22 inches by 27 inches, with minute hill shading and geological colouring, for the nominal price of 6 shillings. To anyone who has a feeling for the wildest of country, gorges, precipices, the most astonishing hill sculpturing, and all bare to the eye with dozens of ancient faults visible miles away, there could be nothing more fascinating than to wander, map in hand, climbing across the continual changes of strata. How Dr. Ball managed to get over 340 square miles of such desperate country in about 240 days, including all the main triangulation, is surprising. One of the strangest feats was keeping his field plotting sheet so clean through all the work that it could be photographed for publication; thus there is none of the usual office beautifying, but it is all shown as it appeared on the spot. It is disappointing that the map only just includes the Serabit temple without its surroundings, and just misses Wady Maghara. Thus, the ancient sites will be split up on the boundaries of three sheets of survey.

Beside the maps, several sections across the country are given, showing the many sharp displacements of strata, sometimes of hundreds of feet up and down. Even this does not express what is perhaps the most impressive sight, cliffs of granite cracked across in every direction, and each crack healed up by a flow of molten rock cementing it together. Perhaps the next most surprising sight is to see the tops of hills capped by a flow of basalt, to know that the outflow was not before the late Miocene age, and yet denudation since then has removed 200 feet of hard basalt and ploughed out hundreds of feet of sandstone to form the present gorges and precipices below the basalt.

The present volume is divided into seven chapters; the general description of climate, life, geology and people; the methods of the survey; a description of the valleys; a description of the mountains; the country up to Suez; the stratigraphical geology; and the physical geology. Most of these chapters are well worth reading by anyone with scientific interests. The methods of survey in particular contain various improvements on the usual practice. The description of the features of the country is hardly of interest to those who do not know it; but the discussion of the changes that the rocks have undergone, and the nature of their weathering, touches many noticeable matters. The curious hardening of the surface, and decay inside the stone, until it is merely a hollow box, is very familiar in the Eocene limestone of the Pyramids, and is here ascribed to the consolidating action of dew. This, however, will not account for the deep hollows, almost caverns, that are seen in the red granite, large enough for several men to stand in. Some further account of the gravel beds in the valleys would have been welcome, in view of the occurrence of worked flints in them, and the questions of the recent geological history of the region. The submersion to a depth of 800 feet, shown by high level gravels in Egypt, due probably to the Rissian glacial period, would have covered the whole plain of El-Markha and filled the valley mouths for a few miles. Probably the plain is due to estuarine deposit from the valleys, and patches of high level gravel might be found in the lower reaches of the valleys. There would be good ground for a palaeologist to work over, in searching the lower Sinai valleys for remains of submersion and human work. When the world is quiet again, there remains fascinating work to be done in Sinai which will be greatly helped by the surveys and excellent maps in this volume.

Recent Discoveries at Kom el-Hisn. By C. C. Edgar. 8 pp., 5 plates. 1915. (*Le Musée Égyptien*, III, ii.)

The main paper of this fascicule having been already discussed (1916, p. 114, *New Portions of the Annals*), the present paper remains to be noticed. The rock cliffs of Upper Egypt have preserved most of what we know about the Middle Kingdom, and the flatness of the desert bordering the Delta has been unfavourable to preserving the history. Tombs must have been constructed, and not rock-hewn, and stone has always been so greedily sought for in the lower country that whatever is known is certain to be carried away. Nine years ago Mr. Edgar published two tombs at Kom el-Barnougi, which appeared to belong to the earlier part of the Middle Kingdom, but with a strong influence of Old Kingdom style remaining. Now another tomb of the same character is published, which has been found at the great site of Kom Hisn, the western border of the Delta, within sight of Naukratis.

This tomb is a single chamber, 168 inches by 55 inches, and 77 inches high, hardly more than a shrine for the coffin. The burial had been entirely robbed, and nothing but brown dust remained. The deceased, Khesu-ur, held many priestly offices. Foremost of these was his leadership of the priestesses of Hathor. Before him is shown the choir-master holding two sistra like battledores, beating time for the ten *khenru*, sistrum bearers of Hathor. Next is shown the choir-master clapping his hands, leading the ten *neferut* or singers of Hathor. The choir-master is entitled Dua-khesu "the striker of adoration," that is, the rattler of the sistrum; and this explains the name of the deceased, which is variously written Khesu-ur and Dua-khesu-ur, or *Dua-khesu-oa*, that is, the "chief striker" or sistrum player. As he was *mer*, overseer, of the *khenru* and of the *neferut*, it is obvious

that these are the two classes of sistrum players and of singers shown before him. The *neferut* were the inferior class, probably girls whose voices were good, and who, when older, might be raised to sistrum players. Other titles were *mer neter henu*, overseer of the prophets; *sehez neter henu*, illuminator or instructor of the prophets; *mer neter hat*, overseer of the temple; *Asar neb zedu neter hen*, prophet of Osiris of Zedu; *meti en sa*, priest (imparter of the *sa* influence?); *neter mer*, beloved of the god, and some other less clear titles. The variant of the name, ending in *ur* or *oa*, both meaning great, should be remarked. There can be no question of the vocalisation *ur*, as it is written with the bird and mouth. A somewhat similar variation occurs on the XVIIth dynasty ushabtis variously written Teta-on (with the eye), or Teta-res.

The scenes in the tomb are the traditional subjects of ploughing and harvesting, catching birds with a clap net, the master harpooning two fish and fowling with a throw-stick, the cutting up of offerings, and the tending of cattle.

A head of a royal statue in basalt was found thrown into the plundered tomb. It is somewhat like Amenemhat III, but more forcible. It is too pinched in the face for Senusert II or III. It might be of Amenemhat II or IV. It is an interesting addition to the portraits of the XIIth dynasty, and whenever we have a complete portraiture of the kings compiled, we may hope to fix its origin.

Bulletin of the Metropolitan Museum of Art, New York. Monthly, 10 cents. May, 1916.

This well-illustrated record of work and acquisitions is always welcome. What a gain in public interest it would be if our national museums were equally communicative! In this number are seven views, two figures, and a plan of the excavations to the south of the pylon of Rameses III at Medinet Habu. The stretch of dusty heaps leading away to the ruins of the Coptic town were suspected by Maspero to cover some remains of buildings, and he proposed that the Davis excavations should be transferred to this region. The site proved to have been greatly denuded; nothing remained over five feet high, and the brick walls had been entirely removed. Three stone baths have been found, and a dais with one ascent of steps, and another dais with three flights of steps. Of the upper parts of the building are three stone grilles for windows, with the cartouches of Rameses III placed between hawk supporters.

These bath rooms and the throne-dais seem to mark this building as a palace of the king, adjoining his great temple. The temple proper could not be inhabited, and the tower entrance was but a gateway in the great temenos wall, and would lead equally to the temple and to the palace or other buildings within the temenos. It is hoped that further clearance here may explain the plan of the building.

Bulletin, November, 1916. "Ancient Egyptian Kerchiefs" gives an account of certain oval cloths, with tapes sewn on them, which were found in a tomb in the Valley of the Kings, of the time of Tutonkhamen. A study of these has now shown Mr. Winlock how they were used. The ends of the tape were tied behind the head and the cloth thrown back over them; in such a position it would exactly cover one of the full wigs which were worn in the XVIIIth dynasty. The dusty climate of Egypt made a covering very necessary for the hair; an oiled wig, after a dusty day, must have been a sorry sight. Having this pattern of one form of wig cover, Mr. Winlock proceeded to plan the other forms of head-coverings that are known. He restores the *khat* commonly worn by working women, which was adopted as the regular type on figures of Isis and Nebhat. The Arab and

modern Egyptian custom of women always wearing a shawl or wrap over the head is similarly as a protection of the hair from dust and dirt. Another headdress, also here restored, is the striped *nemes*, which is shown to be similarly a covering for the wig. It is notable how these various headdresses all arose from the utility of a covering for the hair, natural or artificial. There has also been a suspicion that the *khepesh* headdress was a leather case to cover the double crown of Egypt; if so, originally, it became later worn alone as a substitute for the crown, much like the dummy swords still worn in court dress.

In the *Bulletin*, January, 1917, is an illustration of a limestone face of a woman, which is assigned to the XXXth dynasty. The style would rather suggest an earlier date—before the archaistic work of the Saites. It is only a face and neck, without any back or top to the head, and is hollowed out at the back; it seems, therefore, as if it were a sculptor's study from life, ready for use by a statuary. Two such life studies are in University College, of Narmer and of a Roman.

Declaration d'un Domaine Royal.—A. MORET. (*Comptes Rendus Acad. Inscrip.*, 1916, pp. 318–333.)

This is a careful study of a group of three documents of the reign of Pepy II, referring to a single property at Koptos. Two of these were found by Capt. Weill (but were misattributed to the VIIIth dynasty), the third was bought by M. Moret at Thebes. One of these found by Capt. Weill was incomplete, but has been restored from parallel passages, here in ellipses. This earliest stela may be translated thus:—I. "(The Horus Neterkhou, year *x*. Royal decree for the director of the pyramid town, judge of the Gate, vi)zir, prince, director of the South, director of the scribes of the domain (*netu*) of Koptos, of the nomes of Nekheb (III), Dendereh (VI), Panopolis (IX), Abydos (VIII), Hierakonpolis (XII), Lycopolis (XIII), and Cusae (?) (XIV), SHEMĂA. (The temple of Min in) Koptos of the Two Falcons. The royal offering of the statue of the king of the South and of the North Neferkara *maa-khrou*, which he (the king) has given to his (the god's) endowment, is established in the Palace (unto eternity) by the order and on account of the king of the South and North, Neferkara, living in time and to eternity, to-day renewed:—that is of fields 3 aruras in the two-falcon (city of Koptos. This is constituted by writing in the) office, sealed with a seal, signed by many hands. The offering is specified in the register in these terms: composed of fields, vineyards, orchards, (gardens with excellent things of all sorts) in them. Their name has been given as 'Domain Min-prosper-the-domain-of-Neferkara,' in the office of agriculture. The corvées are settled at the same time, and the serfs are raised for this farm among the serfs (who are in the South for doing the service) of all the requirements and corvées of the Palace; he who may not know his previous tenure will have his duty settled by declaration of the notables.

II. "Go, then, (to the country, descend to) the field to establish the divine offering there, in daily portions of each day, and more for offerings of feasts (which exist already in the temple of Min of Koptos of the) Two Falcons; for it is established for the statue of Neferkara *maa-khrou*—in bronze of Asia ( ) bordered ( ) with gold—brought to this temple—for daily service. (Make therefore a contract with the hour-priests of) this temple, that the corvées be established at once, and the declaration made to the people who are at disposal of the authority there, by the levy of the prince, sole friend, sacrificer of Min, director of the prophets, ADA, in Koptos of the Two Falcons.

III. "(As there is made for him truly a decree) for him to make declaration of the fields in the office of agriculture, with the chiefs and managers of the domains, and the serfs of the fields, adding thereto the offering of pigeons, (and of geese, and the slaughter of oxen and of birds) as it is established for the high feast of the god. And it is the prince, sole friend, sacrificer of Min, director of the prophets, Ada, who is director of the office of agriculture (of this domain Min-prosper-Neferkara in) Koptos (of the Two Falcons). In what concerns you, put the people of the king in this office of agriculture under his authority, and see that they are governed by this declaration in the country . . . . . "

These three declarations are of different effect; the first is to the vizir and nomarch, stating the endowment for the statues is specified in the registers; the second is to the director of the temple to organise the service of the statue; the third is authorising him to take trust of the land of the endowment and manage it. All of the official terms here are paralleled in the Greek bureaucracy of the late times.

Of the next decree the beginning is lost. It refers to the separation of the endowment land from the royal property, and its being attached permanently to the temple endowments: "My Majesty has not permitted any perpetual charge to be made, and My Majesty will not any more claim by the director of the South Land or any noble, on this domain Min-prosper-the-building-of-Neferkara." On the contrary, it is reserved to the temple, and under its protection.

"Every director of the South, every noble, every messenger, every scribe, if he does not conform to the words of this decree of the hall of Horus (the king) and of the authority of the registers, My Majesty will not allow him to be a priest of the pyramid Men-onkh, nor of any domain under his authority. And My Majesty has ordered setting up a mast of foreign wood in this new town (*i.e.*, the decreed domain); My Majesty has ordered that this decree should be placed on a white stone at the gate of the temple of Min in Koptos. This decree is also for the director of the labourers of this domain, and for the director of the office of agriculture, for the sons of their sons and the heirs of their heirs. My Majesty has sent the sole friend Ada on this matter."

The mast of foreign wood is supposed by M. Moret to be of cedar of Lebanon. Rather it might be a straight fir pole, like the maypole in a village of the West. Was not this the emblem of a village or "new town"? Was not the right to a centre of rustic worship and festivity the mark of an independent community, not subject to municipal claims of any neighbouring town? In England, the maypoles were called by the Puritans the "idols" of the people, and Pasquil, in 1634 wrote: "Where every village did a maypole raise."

Some years later a third decree renewed the rights of this endowment. It has been fully published by Capt. Weill, and is summarised by M. Moret. The decree is likewise of Pepy II. It directs the royal agents to define their relation with the serfs of the new domain established to furnish the daily offerings to the statue. These people are reserved anew to the temple of Min, and freed from the corvée due to the Palace. The various dues claimed on the royal estates are enumerated in order to specify that they cannot be claimed from these serfs, who now belong to the service of Min. The dues are in two classes, *mezeru*, the taxes literally wrung from the people like wine from a twisted cloth wine-press, and *kătu*, public works. The taxes were charges on goods due to the treasury, and taxes on the place; levies by the viceroy of the South; contributions of gold, silver, and common metals; supplies of material to the registry office; food dues of baskets

of vegetables, eatables, fodder and bread; perhaps, also, cordage and linen yarn. All of these taxes in kind are known at the other end of the history, in late papyri; so, probably, they were claimed at all times. The public works, corvées, were cultivation of royal lands, harvesting and various works, doubtless including canals and embankments, as in modern times. Lastly, there is the charge of "passage by land and water," the claim for beast and boat in the king's service, which has been usual in most countries. Probably the exactions in the temple service were not so heavy, and so the people claimed protection from the squeezing by royal officials. These decrees give valuable light on the administrative system, and the close parallel with the Ptolemaic and Roman customs show how long continued was this taxation, which eventually ruined the country when applied for the benefit of the absentee landlord, the Roman Emperor.

Le Sinaï et l'Exode.—GUSTAVE JÉQUIER (*Revue de théologie et de philosophie*). 1916. (Lausanne.)

This is a review of the work of Prof. Cart, of Neuchâtel, on his Expedition to Sinai; popular in the first part, and discussing historical problems in the second part. The conclusion of the author is that the original record described Moses as leading Israel to Qedesh, and that later the account of Sinai was substituted. This point of view seems to contradict all we know of the veneration of holy places. If Qedesh was the root of all the sacred traditions and history of the people, why should they entirely neglect it and transfer their history to a remote district of which they had no reason to know anything at all? It seems contrary to common sense, as well as to many documents, to suppose such an inversion.

Another conclusion of Prof. Cart is that the Israelites divided into two parts, one of which went into Egypt while the rest were in Moab. The Egyptian portion then entered Canaan from the south, while the eastern portion came across the Jordan, and were the Khabiru under Amenhetep IV. They only became united under David and Solomon, and soon broke apart again. There is much to be said for a division of Israel, but the record points to their reunion before the entry into Canaan, during some twenty years in Moab.

Les dessins des vases préhistoriques égyptiens.—E. NAVILLE (*Archives Suisses d'Anthropologie générale*). 1916–1917. (Genève.)

In this paper Prof. Naville repeats his views as to the boats on the vases being drawings of stockaded forts. He first debates the meaning of the wavy lines on these vases (see ANCIENT EGYPT, 1916, p. 34), proposing that they do not represent water, but ripples on sand dunes. They really represent neither, but the cordage in which stone vases were carried; the proof of this is when they run diagonally, crossing from top to bottom of a vase.

As to the boats, the critical examples must be examined; they are ignored in this paper. In the first number of ANCIENT EGYPT, 1914, p. 32, are the figures of an unquestionable boat with a man at the steering oar, and the figure of a boat from a vase with three great steering oars. The cabins are alike on both, it would be impossible to deny their connection. The new carved ivory from Gebel el-Arak (ANCIENT EGYPT, 1917, p. 27), shows boats of the same general form, with cabins. There is no ground whatever for removing some of these boats to the category of land forts.

The so-called aloes on the vases are explained by a Bantu custom of having a village tree to which offerings are made in a vase.

NOTES AND NEWS.

We have received from Mr. Willey the following translation of Monsieur Pézard's report of May, 1913, on excavations about a mile from the British Residency at Bushire :—

"I have the honour to report that the mission entrusted to me by the French Government, and which I have directed with the assistance of my brother, Lieut. G. Pézard, has just terminated, and before leaving Bushire, I should like to bring to your notice the main results :—

"The hill close to Sabzabad was occupied at a very ancient period and the most modern documents found on the top of the hill date from the middle of the Elamite epoch (about 1,100 years B.C.), and consist chiefly of inscribed bricks belonging to a construction of the Kings Shanterank Nukhanti, Kantir Nukhanti, and Shilkhat-in-Shanshinak, kings of Anzar and Susa. The texts are common to temple buildings built in these regions, and chiefly at Susa, and mention especially the sanctuary of the goddess Kirinsha. The row of stones found on the same plane and below the Elamite monument would appear to have formed part of the walls of the building. A plan has been drawn up so far as subsequent treatment and excavations previous to the French Mission render it possible. Besides the inscribed bricks, the Elamite epoch is represented at Bushire by numerous fragments of clay vases, some specimens of stone vases, arms made of brass and of stones and some rings and pearls.

"Below the Elamite level and as far as the bottom of the hill which is cut in two by our trench some 50 metres long and 8·50 deep, the excavations have brought to light a large number of fragments of different vases of which one is more than 1 metre in height and is complete. The vases decorated by the designs 'of the II style' are more numerous at this level than above. The arms and stone tools are also very numerous, but there only remain traces of metal utensils. In the very complete report which we have drawn up there figure numerous types of cut flints (arrow heads, scrapers, etc.) and some polished axes from the neolithic epoch. It may be said that this part of the hill covers the most ancient civilisation which has existed at Bushire.

"The map of the hill and of the more recent Arab and Portuguese ruins which exist in the neighbourhood of Subzabad has been prepared by Lieut. Pézard. Lastly, numerous specimens of shell-fish and bones have also been found in the course of excavations in the hill.

"If our work shows little result from the artistic point of view, it is full otherwise when viewed from the scientific side. Thanks to our excavations, it is possible to form a rough idea of the successive civilisations which this part of the island has seen."

Mr. Guy Brunton is now in the Durham Light Infantry, working in France with the 8th Labour Company. Capt. Engelbach, R.E., is shortly to move from Newhaven. Mr. Lawrence is with the sons of the Sherif of Mecca.

ANCIENT EGYPT.

A NEW KINGDOM POTTER'S MARK.

In October, 1916, I was fortunate in buying for 3 piastres ($7\frac{1}{2}d.$) at el-Arabah (Abydos) the pot here illustrated. It is of a well known style, very typical of the early XVIIIth dynasty, and perhaps running back into the period intermediate between the Middle and New Kingdoms.[1] The pot is ornamented with a variety of the decoration common on this class, which is done in the usual dark purplish-brown paint. It is a rather coarsely made specimen, but its clay is of that fine quality which varies from drab to red, and of which these pots are generally made. In this case the clay has turned rather red. Thus, in every way it is a very ordinary pot of the period stretching from the seventeenth to the fifteenth centuries B.C., except that in one of the panels it bears a group of two signs, **C B**, quite clearly written, and in precisely the same dark purplish-brown paint as that in which the decoration is done. There can be no doubt but that these signs are of the same date as the pot itself, yet they at once call to mind letters from the classical alphabets of a date later by many centuries than those to which our pot is assignable.

Of this curiously late style other signs have been found at Tell el-Yahudiyeh, incised as potters' marks on the backs of faience tiles for inlaying on walls, as were a number of hieroglyphs, and also other signs of a purely fanciful form. Their first appearance not unnaturally led their discoverer to speak of them as "lettres grecques," and to think that the tiles were "probablement aux temps des Ptolémées."[2] Prof. Hayter Lewis[3] also calls them "Greek letters," and, on the authority of Mr. Chester, says that "tiles of the same kind, also with Greek letters at the back, are in the Louvre Collection, having been brought back from Assyria." Later, however, Mr. Griffith[4] considered "that they (the tiles) are natural representatives of Ramesside work," and since then tiles of various classes have come to light in Egypt of various periods back to the earliest dynastic times; so that so far as the tiles themselves are concerned, there is no need to doubt that they are of the date of Rameses III, *i.e.*, early twelfth century B.C. There can also be no doubt that the "Greek letters" which they bore are also of this date, for here we have other signs of the same class on a pot several centuries earlier, *i.e.*, seventeenth to fifteenth centuries B.C. The "Greek letters" on these Ramesside tiles were **ΕΛΙΛΜΟCΤΧ**. Of the two on our pot, one, the **B**, does not occur in this Tell el-Yahudiyeh list, though known elsewhere at about the same period of history, *i.e.*, in the XIXth dynasty or thirteenth century B.C.[5]

These signs no doubt belong to that group of pot marks which Prof. Petrie has discovered in Egypt from time to time, and of which many forms run right back to early predynastic times. He has recently collected together[6] those forms

which are similar to, or identical with forms of letters occurring in the syllabaries and alphabets of other countries and other times. While examples of some of these, such as Nos. 1, 4, 18, 25, 27, 33, 39, 41, 47, 48, are remarkably like the shapes the Greek letters had assumed by classical times, the great majority of them are not of the classical, but of the pre-classical and barbarian forms. On extracting from Petrie's plates those forms which resemble the classical, and adding those from Tell el-Yahudiyeh and our own two, we obtain the following table :—

Letter.	E.P.	L.P.	I.	XII.	XVIII.	XIX.	XX.
A	1	1	—	1	1	—	Y
E	—	—	—	—	4	—	Y
I	7	7	7	7	7	—	Y
O	9	9	9	—	9	—	Y
B	—	—	—	13	●	13	—
Φ	18	18	18	18	—	18	—
C	—	—	21	21	●	21	Y
H	25	25	25	25	25	—	—
X	27	—	27	27	—	27	Y
Δ	33	33	33	33	33	33	—
T	—	—	39	—	39	—	Y
Λ	—	41	41	41	—	—	Y
N	—	—	—	47	47	—	—
P	—	—	48	—	48	—	—
M	—	—	—	—	—	—	Y
15	7	7	10	10	11	5	9

In this table E.P. is early pre-historic, L.P. late pre-historic, and the numbers I to XX refer to dynasties. The numbers placed in the columns are those attached to the sign in the plates of *The Formation of the Alphabet.* The two spots are the marks here published; the Y represents the signs from Tell el-Yahudiyeh.

The classical forms of the following seven out of the above fifteen letters had already come into use in quite early Greek times :—[7]

8th cent.	7th cent.	625–575.
T	Δ	B
	I	P
	O	Φ
	X	

but the C of our pot does not come into use for σ until quite late, 310 B.C., and not into regular use until 130 B.C.[8] It should therefore rather be compared with the C of the early local Greek alphabets, where it was employed, not for σ, but for γ as early as the sixth century.[9]

Prof. Hayter Lewis' reference to the finding of potters' marks of a similar class in Assyria seems worth following up, as such an enquiry would no doubt extend the area over which this group of signs is known to have been used.

PAINTED JAR WITH POTTER'S MARK.
Abydos. XVIIIth dynasty.

References.

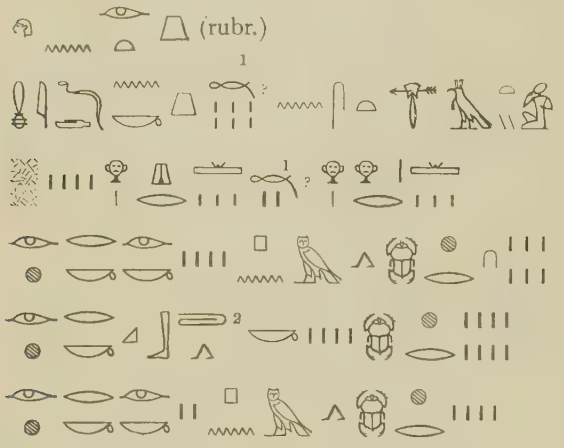
[1] Peet, *Cemeteries of Abydos*, II, p. 69.
[2] E. Brugsch, *Rec. de Trav.*, VIII (1886), p. 5.
[3] Hayter Lewis, *Trans. S.B.A.*, VII (1881), pp. 182, 188.
[4] Griffith, *Tell el-Yahudieh* (1890), p. 41.
[5] Petrie, *Formation of the Alphabet*, Pl. II, No. 13.
[6] Petrie, *Formation of the Alphabet*, Pls. I to V.
[7] Larfeld, *Handbuch der griechischen Epigraphik*, II, Tafel II, at the end of the volume. See also Tafel III at the end of Vol. I, where some are found even earlier in the local alphabets.
[8] Larfeld II, Taf. III.
[9] Larfeld I, Taf. III.

G. A. WAINWRIGHT.

THE VOLUME OF THE TRUNCATED PYRAMID IN EGYPTIAN MATHEMATICS.

In the collection formerly belonging to Mr. Golenistsheff and recently acquired by the Museum of Fine Arts in Moscow, there is a Mathematical Papyrus of thirty-six columns, in hieratic writing of the epoch of the late Middle Empire. Paleographically it is like some of the Illahun papyri, whilst the breadth of its leaves brings it near to the MSS. of Sinuhe, found in the Ramesseum. This papyrus contains nineteen problems, some of which give us new types of calculation unknown till now, and therefore somewhat difficult to comprehend. Four of these problems are geometrical ones. The first shows how to define the length of the sides of a quadrilateral, when the relation of the sides and the area of the quadrilateral are known. The two next give a method of calculating the area of a triangle: a method already known to us. The fourth presents us, I am inclined to think, with something altogether new in Egyptian scientific literature.

This is the transcription of the XXth and XXIst columns of the papyrus:—

XX.  (rubr.)

XXI.

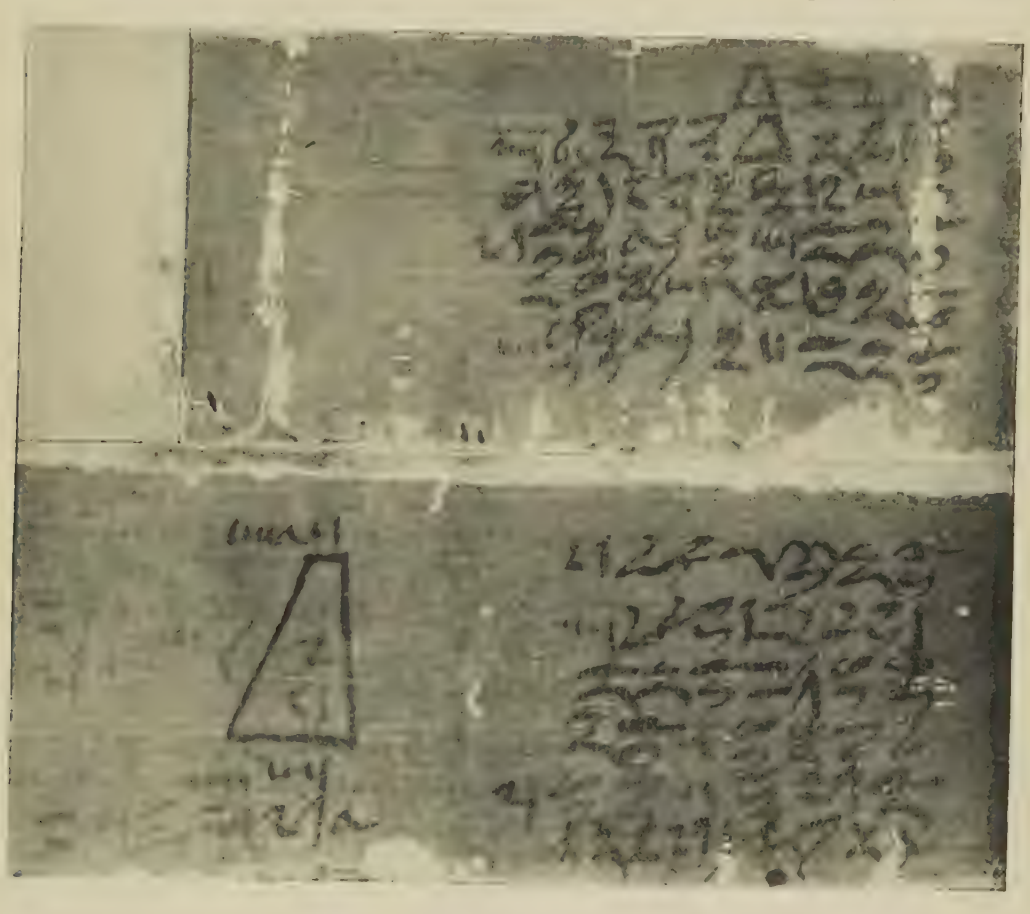
[1] ?

[2] ? orig.

This is the translation of the problem :—

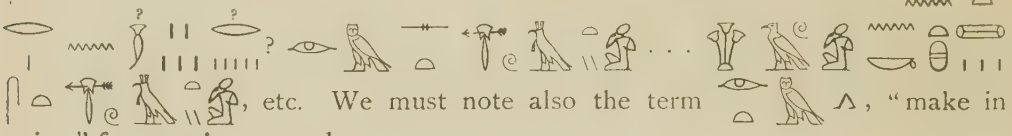
"The problem is to make a ▱ . If it be said: '. . . . 4 below, 2 above,' do as follows: square this 4, which gives 16; duplicate 4, which gives 8. Do as follows: square the 2, which gives 4. Add the 16 to the 8 and the 4, which gives 28. Do as follows: take ⅔ of 6, which gives 4. Do as follows: take 28 twice, which gives 56. This is the 56. You will find it correct."

Leaving aside for a while some rather obscure points in our problem, let us try to define its main object. The sketch represents a trapezium, but the calculations do not answer to our definition of the area of a trapezium, nor to the



Calculation of Volume of Truncated Pyramid.
XIIth dynasty.

Egyptian one. On the contrary, they wholly correspond to our calculations of the volume of a truncated pyramid. Our formula for it: $\frac{h}{3}(A + A_1 + \sqrt{AA_1})$, where A and A_1 represent the area of the upper and under base and h is the height, wholly corresponds to the solution of the Egyptian problem. In fact, the area of the upper base in the latter is $2 \times 2 = 4$, the area of the under base is $4 \times 4 = 16$; $\sqrt{4 \times 16} = 8$; h is 6. Placing these numbers in our formula we get: $\frac{6}{3}(4 + 16 + 8) = 56$. The Egyptian mathematician follows the same method; we only do not understand how he came to define the mean proportional area; it can be only empirically. The term which we met here for the first time,

is also incomprehensible, and its occurring in some other passages of our papyrus does not add much to its explanation, such as the passage in XXVII:  , etc. We must note also the term , "make in going," for squaring a number.

If only our explanation of the problem be right, we have here a new and interesting fact, *i.e.*, the presence in Egyptian mathematics of a problem that is not to be found in Euclid.

B. Touraeff.

[In comparing the Egyptian with the modern formula, where we write $\sqrt{\overline{AA_1}}$ or $\sqrt{\overline{aa}\,\overline{bb}}$, the Egyptian took the simpler form $a \times b$.—Ed.]

THE GOD SOPT.

THE pantheon of the ancient Egyptians included certain gods who were of non-Egyptian origin, but who were given a place by the side of the older local divinities under the influence of the syncretism that went with the settlement of other people in the country. Among these gods was Sopt, or Sopdu, a name written with the sign of a cone and a mummified hawk, on whose origin and associations light is thrown by the recent excavations in Sinai and in Syria.

Sopt was first named in the Egyptian records of the XIIth dynasty and is again mentioned in the XVIIIth dynasty. The foothold which he gained in Egypt seems to have come as the result of the help which his votaries gave to the Egyptians, by throwing back the Mentu, who were Asiatics, for a nome text of Edfu contains the words: "Shur is here Sopt, the conqueror of the Mentu, lord of the east country, and in Edfu golden Horus, son of Isis, powerful god Sopt" (Brugsch, *History*, 1888, p. 568). The title lord of the east was generally applied to Sopt. Thus a tablet of Senusert II (XII, 4), found in the temple of Wady Qasus in the desert of Qoceyr on the borders of the Red Sea, called him, "Sopdu, lord of the eastern foreigners, and lord of the east (*Neb-aăbti*)" (Wilkinson, *Manners and Customs*, III, 236). He was represented standing without headdress, carrying in each hand an *ankh* or sign of life (Wilkinson, *Manners and Customs*, 1878, III, 228). On inscriptions of the reign of Amenemhat III (XII, 6) found in Sinai, organisers of mining expeditions described themselves as, "beloved of Hathor, mistress of the turquoise country; beloved of Sopt, lord of the east; beloved of Sneferu and of the gods and goddesses of this land" (Breasted, *Records*, I, 722).

The description of Sopt as lord of the east refers to his cult in the eastern Delta. Pa-qesem, the capital of the later nome Arabia, had the alternative name Per-Sopt, *i.e.*, "house of Sopt." Pa-qesem is the land of Goshen of the Bible, and the name Per-Sopt survives in the name of the present village Saft el-Henneh.

The god Sopt likewise had a foothold at Heliopolis, as is suggested by an inscription recorded by Wilkinson, which described him as "noblest of the spirits of Heliopolis" (III, 228).

Sopt further had a foothold at Sarabit in Sinai, where his cult is apparent from inscriptions of the XIIth and of the XVIIIth dynasties.

The height of Sarabit in Sinai was the site of one of the old rock-sanctuaries known to us, the existence of which was carried back to the beginnings of Egyptian dynastic history by the finds that were made there in the winter of 1905–6. It was probably much older. The sanctuary consisted originally of a cave, or rather of two caves adjacent to one another, with separate entrances, which lie in a knoll facing a plateau in the midst of wild rocky scenery. The plateau lies some 2,680 feet above sea level, and is difficult of access on all sides, more especially on the north, where the cliffs of the gorges that lead down to the Wady Suweig have sheer falls of several hundred feet in places. The plateau has a wide outlook and is proportionately visible from afar. On its southern and western side it falls away abruptly, exposing the stratum which anciently yielded turquoise. The wish to control access to this turquoise doubtless led to the permanent occupation of the

cave; and we shall probably not be far wrong if we imagine this at a remote period in the possession of a clan, or hereditary priesthood, who, in return for offerings brought to the shrine, gave turquoise, or the permission to work it, inside the appropriated area. Turquoise was prized from the earliest times, as was shown by the beads of turquoise that have come out of the predynastic graves of Egypt which date from the Neolithic Age.

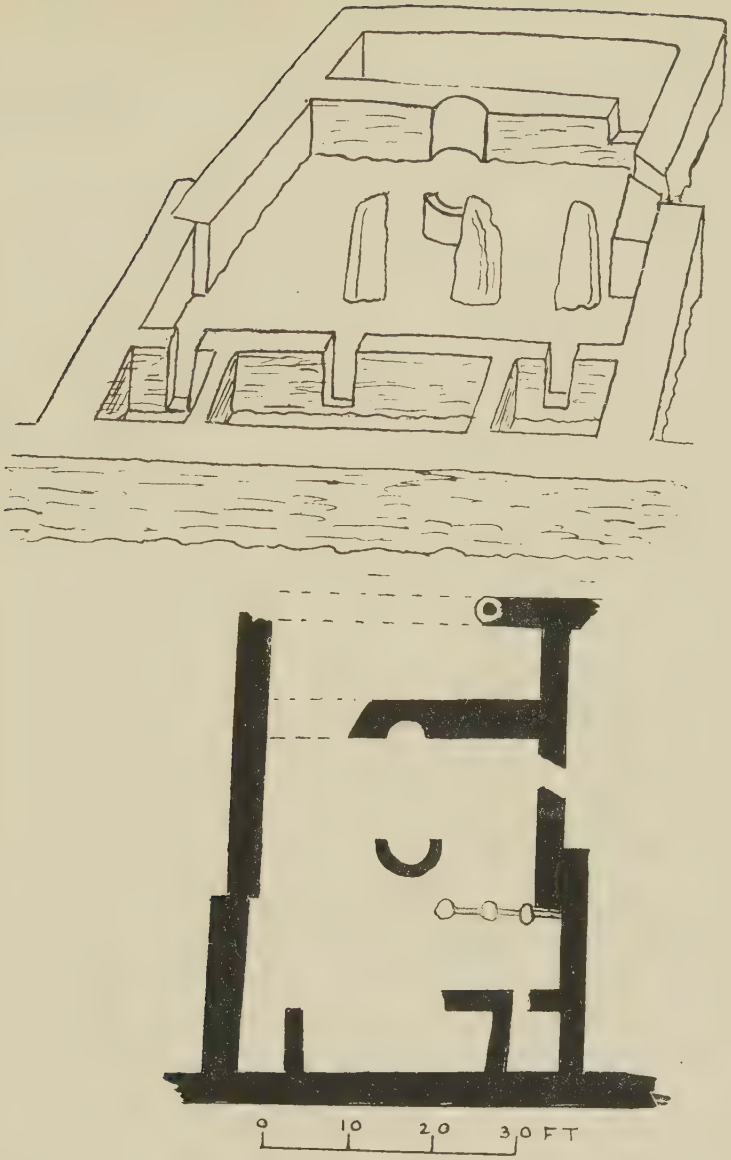
The sanctuary of Sarabit was associated with a female divinity to whom the Egyptians gave the name Hathor of Mafkat, *i.e.*, of turquoise. In the inscriptions in the early Semitic script that were found in the sanctuary, she appears as Ba'alat. The period which witnessed the acceptance by the Egyptians of Hathor as patron saint of Sarabit, witnessed the establishment there also of Sopt, the cult of each divinity being associated with a cave. The larger cave, which always served as a storehouse for offerings, was associated with Hathor. Its walls were covered with figures and inscriptions, and an altar, fashioned on the Egyptian pattern, was placed inside it. The lesser cave, that measured 6 feet by 4 feet, with three steps leading up to a round-headed recess, was associated with Sopt. This cave was without trace of inscription or tablet.

A later age associated Sopt more especially with King Amenemhat III (XII, 6), who sent many mining expeditions into Sinai. The open hall which was erected inside the temenos of the temple, near its north entrance, by Queen Hatshepsut of the XVIIIth dynasty, showed a number of figures on the walls, and among them Sopt who was represented following King Amenemhat. Sopt at the time was accounted the equal of Hathor. At the entrance to a turquoise mine that was opened conjointly by Hatshepsut and her nephew Tahutmes, is Tahutmes offering incense to Hathor, while Hatshepsut is seen offering incense to Sopt. The connection of Sopt with Sarabit, the centre of the turquoise region, explains the words that were put into the lips of the god at the Osiris festival at Denderah, where Sopt addressed the following words to Osiris: "I bring thee turquoise from the city Hatqa. Serene be thy face as thou lookest at it. It is a stone on thy hand, an amulet for thy body" (Brugsch, *Religion und Mythologie*, 1888, p. 567). The amulet of Sopt at the city of Per-Sopt in Goshen was of turquoise also.

The name Sopt is to all appearance of Semitic origin. It is the verbal parallel of the Hebrew *shophet* and the Phoenician *sufet*, a word signifying "judge." In the Bible the word *shophet* was frequently applied to the Divinity. "Shall not the judge (*shophet*) of all the world do right?" (Gen. xviii, 25). "And the heavens shall declare His righteousness, for Elohim is Shophet himself, Saleh" (Psalm l, 7).

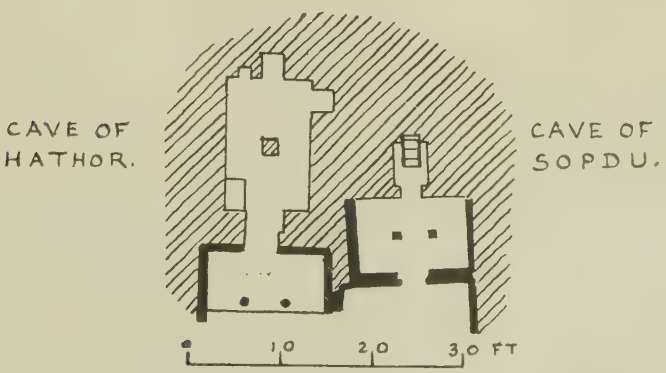
Several place-names in Palestine preserve the name Shophet. There was Sepheth, modern Safed, situated north of the Sea of Galilee, which ranked as a holy city with Jerusalem, Hebron, and Tiberias. Safed occupies a conspicuous position on the summit of a mountain, and was named Tziphath in the Egyptian *Travels of a Mohar* (XIXth dynasty). It is Tsapheth in the Talmud, and Sephet in the Vulgate of Tobit (*circa* 600 B.C.). Eusebius-Jerome mentioned Safed in the *Onomastikon* and described it as "locus Chananaeorum" and as "locus judicans" (ed. Lagarde, p. 43, 180; Murray, *Palestine and Syria*, p. 259).

Tell es-Safi, situated between Jerusalem and Gaza, was probably Gath, one of the five royal cities of the Philistines, where the Ark was placed at one time It was looked upon as a High Place of burning, and was recently excavated (Bliss and Macalister, *Excavations in Palestine*, 1902, pp. 30 ff.). At a depth of 11 to 21 feet the pre-Israelite level was reached, on which stood several rough uprights



THE HIGH PLACE TELL ES SAFI, RESTORATION AND PLAN.

BLISS AND MACALISTER, EXCAVATIONS IN PALESTINE.



SHRINES AT SERABIT. PETRIE, RESEARCHES IN SINAI.

or *mazzeba*, which were enclosed in one of several chambers that were built at a slightly higher level. The long wall of the chamber that enclosed the *mazzeba* had a break, roughly in the form of an apse, which was 4 feet 5 inches across, and 2 feet 4½ inches deep. This apse recalls the round headed recess in the cave of Sopt at Sarabit. In front of the apse of Tell es-Safi, at a distance of a few feet facing it, was a rude semicircle of stone that stood 20 inches high.

In the Hebrew religion the sanctuary was very generally a seat of justice, the *themis*, of which the priests were the administrators, and who, in this capacity, were sacred and were called *Elohim* (Hastings' *Dictionary of the Bible*, article "Sanctuary"). The supposition, therefore, is that Tell es-Safi and Safed in Palestine, and likewise Per-Sopt in the land of Goshen, and the shrine at Sarabit in Sinai, were centres to which matters of judgment were brought for decision, or where the priest, acting as the mouthpiece of Divinity, gave out the pronouncements. The round apse at Tell es-Safi, and the recess at Sarabit which was raised three steps, were, perhaps, the places occupied by the priest; the low semicircle at Tell es-Safi facing the apse may have been intended for him who sought the judgment.

The connection which is thus established between the shrines of Palestine and Sinai explains the existence at Sarabit of various features which are in keeping with Semitic usage.

Prof. Robertson Smith, in his lectures on early Semitic religion, showed how the barren and unfrequented hill-top would be the natural place chosen for the holocaust, and in this connection cited the proposed sacrifice of Isaac on a mountain. The High Place of Burning was the accepted site of religious cult in Palestine. Tell es-Safi was such a place of burning, and in the history of Samuel we read how he was called upon to sanctify the sacrifice on the height, of which the people would not partake until it had received his blessing (1 Sam. ix, 12). Again, Solomon visited Gibeon where he burnt sacrificial flesh, and offered a thousand burnt offerings on the high altar (1 Kings iii, 3). After the building of the Temple at Jerusalem, efforts were made to draw to it all the offerings, but the High Place continued, and it was only after Captivity (B.C. 770) that it came under the ban of the ceremonial law.

The use made of the plateau of Sarabit in Sinai as a High Place of Burning was known by the excavations. The Egyptians, when they gained a foothold in the place in the XIIth dynasty, erected buildings on the approach to the caves. Beneath the stone floors of these buildings there was found an extensive bed of wood ashes, which extended all across the temple breadth and out as far as the stone walls on the south, in all 50 feet in breadth. Outside the stone floor the ashes would be carried away by wind or rain, beneath it they had remained. In the words of Prof. Flinders Petrie: "We must therefore suppose a bed of ashes at least 100 feet by 50 feet, very probably much wider, and varying from 3 to 18 inches thick, in spite of all denudation that took place before the XVIIIth dynasty. There must be now on the ground about 50 tons of ashes, and these are probably the residue of some hundreds of tons of ashes." *Researches in Sinai*, 1906, p. 99). The ancient area of burning being built over, the holocaust apparently took place outside the temenos on the north side, in a great square recess against the hillside overlooking the Wady Dhaba, which may owe its origin to the quarrying of stone for the temple buildings. The great square was covered with a patch of growing corn in the winter of 1905–6, which pointed to the presence and comparative fertility of the soil.

Another feature peculiar to Semitic usage was the frequent erection of rough stones or *mazzeba* which are found in the uplands of Palestine, and of which we read in the Bible. The sanctuary at Tell es-Safi contained such uprights, the devotional and commemorative character of which is well known.

Thus, in the story of Jacob we read how, coming from Beersheba, he lighted on a certain place that was holy ground, and tarried all night because the sun was set, and took stones to serve him for pillows. He had his wonderful dream, and, on the following morning, he set up the stone on which he had slept, and poured oil on it and called it Bethel, saying: "In the stone that I have set up for a pillar

AMENHETEP III OFFERING TO SOPT.
Serabit. XVIIIth dynasty.

(*mazzeba*) shall be God's house" (Gen. xxviii, 22). On a later occasion Jacob made a covenant with Laban, in ratification of which he set up a stone (*mazzeba*), and called his brethren to take stones and make a heap (perhaps an enclosure), and, "they ate and they drank there" (Gen. xxxi, 45). Again, when the Israelites were encamped before the holy mount, Moses set up twelve *mazzeba*, and Joshua did the same after the Israelites crossed the Jordan, placing twelve stones within circles at Gilgal, which remained the place of assembly and worship while Joshua was engaged in warfare.

On the plateau of Sarabit in Sinai, scattered here and there within sight of the ancient place of burning, were a number of rough enclosures made by clearing the ground of stones and piling them together. The enclosures were for the most part 4 to 6 feet inside size, and many contained a stone of larger size that was set up on end on one side of the enclosure and propped up with other stones. There were also some uprights without enclosures. The walls that marked the extent of the temenos were made in the same way, and there was a similar wall across the Wady Umm Agraf, the valley that extended south of the sanctuary, as though partitioning this off as a reserved tract of land, or *hima*, as this is known to us in the ancient sanctuaries of Taif in Arabia and elsewhere.

Another Semitic feature was the use of tanks of water for ablution, such as the *apsu* of ancient Babylonia, and the laver that stood between the entrance of the tabernacle and the altar (Exod. xxx, 18). In the Temple of Solomon stood a "molten sea that was round about," and there were, moreover, on the right of the house eastwards ten lavers of brass, five on the right side and five on the left that moved on wheels (1 Kings vii, 23 and 38). The Arab mosque of to-day has a *ghusl*, or place for legal washing outside, and a *wassm*, or circular tank, inside for ablutions.

At Sarabit in Sinai, a rectangular stone tank stood outside the north entrance to the temple area. Inside this, in the centre of a pillared court that was built in the XVIIIth dynasty, stood a circular tank 31 inches across, with a rectangular tank built into the wall of the same court, which was probably older than the building. Another rectangular tank stood in the approach to the lesser cave. The disposition of these tanks was such that the worshipper who approached the Temple on the north side passed the tank at the entrance, and the various tanks inside on his progress to the lesser cave.

LINA ECKENSTEIN.

[The restoration and plan of the shrine at Tell es-Safi are irreconcilable in the work quoted.—ED.]

THE GEOGRAPHY OF THE GODS.

So far but little account has been taken of the manner in which the worship of the gods was distributed in Egypt. Certain gods are well known to belong to some town or district, as Ptah of Memphis, or Khnemu of the Cataracts. Yet often this popular attribution may be misleading if we are studying early times, as a position of a worship may be quite secondary, such as Osiris at Abydos, or Ptah at Thebes. It seems likely, however, that the gods of a particular tribe would have special worship in the regions where that tribe first settled before they mixed with other inhabitants and honoured their gods. Hence a study of the distribution of the worship of the gods promises to throw light on two large problems of the primitive ages: (1) What regions were occupied by the worshippers of certain gods? (2) What gods were worshipped by the same people?

If there is any hesitation whether such a method can lead to distinct results, compare at a glance the distribution in Maps 1 and 2 with that in Maps 5 and 6. In 1 and 2 the worship is limited to the Delta and the Thebaid; in 5 there is little in the Delta and Thebaid, and the majority lie between the two extremes. In 6 there is more in the Thebaid, but the middle region is well supplied, and only one temple is in the Delta. These directly opposite conditions show that there are clear materials for historical study. Firstly, we will consider the facts of the distribution; and, secondly, the relation of these to the general history.

In order to avoid the encumbrance of a great number of maps, sixteen of the principal gods are grouped together here in six maps. Such gods as are similarly distributed in their worship are here placed together, marking their several cities with lettering, sloping backward or forward, or else upright, to distinguish the different gods. It is easy then to grasp at one view all the lettering of one direction. A considerable difficulty in such an enquiry is the uncertainty of the places indicated. On a temple scene, or an altar, is found a mention of a god of some place; but there may be only vague indications otherwise as to where that place lay. The names of the centres of worship have been taken from Lanzone's *Dizionario di Mitologia Egizia*, with a few additions. Their identification has been done from Brugsch's *Geographical Dictionary* where possible; and often a general indication of a place being in a given Nome has been used, as a more precise locality is not needed in this enquiry. A considerable number of names have been omitted, as there was no clue to their position.

The first great grouping to consider is that in Maps 1 and 2, showing the position of the worship of Ra, Behudet, Mut, Set, and Nebhat. First, we may note that this corroborates the myth that Nebhat was the wife of Set. The distribution of her worship follows that of Set, and is entirely different to that of the Osiris triad. In Map 1 there are places of Behudet and of Mut on the desert roads to the Red Sea, shown here by arrows. What can be the cause in Maps 1 and 2 of this distribution at both ends of the land, and not in the middle? It seems likely to have been due to entering Egypt from the Red Sea, partly across

the desert routes to the upper country, partly by Suez. Confirming this are the worships in the eastern desert and the distribution on the eastern side of the Delta, twelve on the east, four in the centre, and none on the west of the Delta. On the contrary, see Map 4, where the region of Amen-Ra is the west and central Delta, and not the east. We will next consider these gods more in detail.

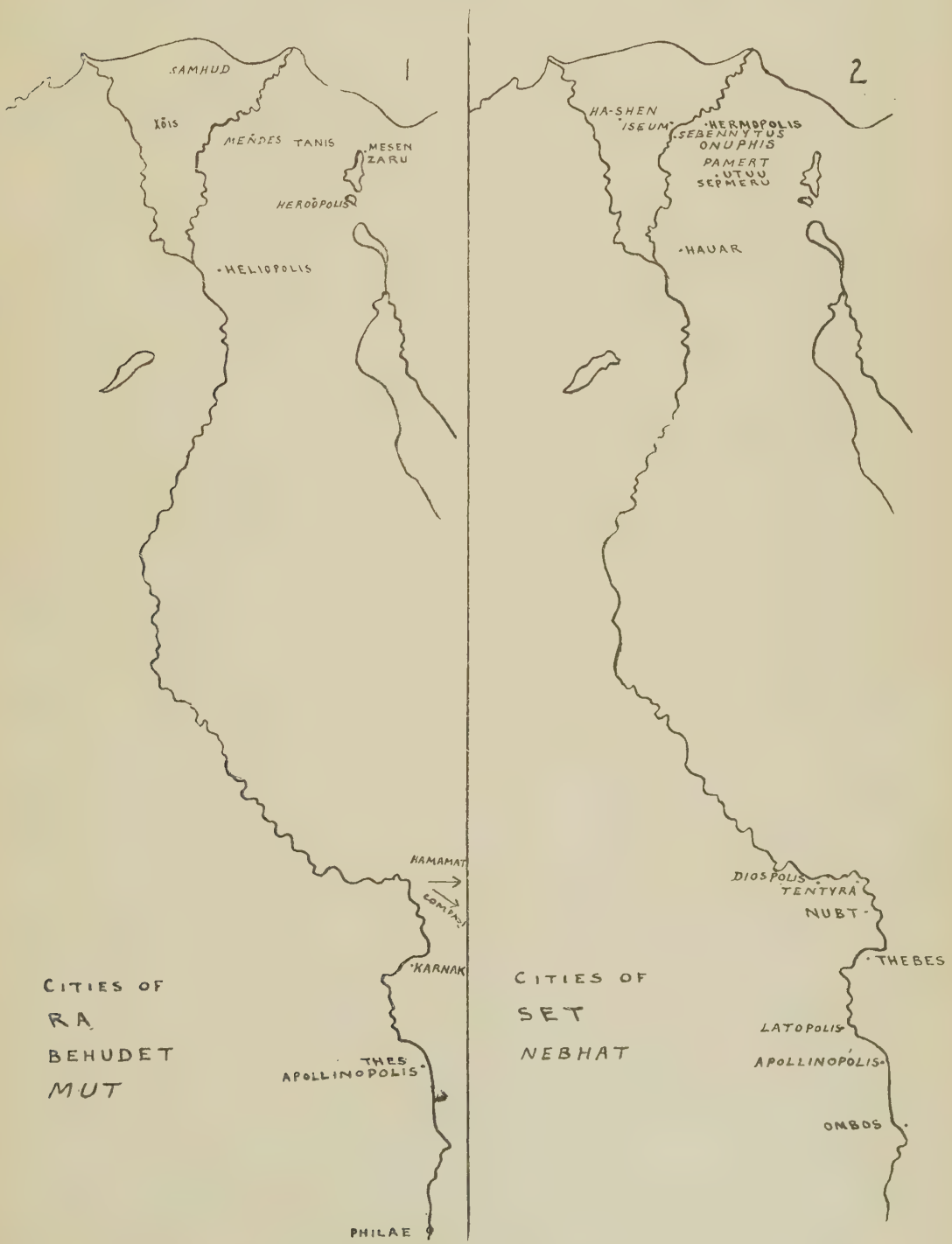
As to Ra, there is only one southern city, and that is Thes, the city of Behudet, Edfu, where another form of the Sun-god was prominent, and therefore as Ra is only mentioned in a very late text (Dendereh), he is probably only secondary. The Ra influence was by far the greatest at Heliopolis, and next to that at Xois. It appears to have come in from the north-east.

Behudet, or Hudet, is a god that, from his incessant repetition on buildings, ought to have received more attention. He is clearly a sun-god, and the hawk connection is probably subordinate, due to the wings symbolic of the flight of the sun. Whether the wings are those of the hawk for flight, or of the vulture for protection, is not always clear. For the distinction of hawk and vulture wings in the XVIIIth dynasty, see Naville, *Deir el-Bahari*, Pls. LXVI, LXXXII, and compare the *hudet* in Pl. LVI, where it seems more of the hawk form. Granting that these are hawk wings, yet no hawk head appears; the sun has borrowed wings as an emblem of its movement across the sky, but it is not a hawk-god. Maspero discusses (*Études Myth.*, II, 313) whether the reading is *behudet* or *hudet*, and he is by no means convinced of the "*b*" reading, and prefers *hudet*. Neither he nor other writers have adduced what seems a clear connection of the latter form. This is the Hebrew, הוֹד, *huhd*, "splendour, glory, majesty, or honour." Such would be a likely appellation for the glory or majesty of the winged sun, and for its figure placed over the doorways. This Hudet is the god who is accompanied by the metal-workers, *mesnitu*, whose forge, *mesen*, was in the temple of Edfu, and at Zaru in the north. Other forges are stated to have been at Herakleopolis, but no Hudet of that city is mentioned (see Maspero, *Études*, II, 313–317). These *mesnitu* were the army of Horus against Set. The god Hudet, or Behudet, appears, therefore, to have come into Egypt by the Berenice-Koptos road, on which Compasi retained the name of Qembaus where he was worshipped. He became established as the great god of Apollinopolis or Edfu. He also entered by the north and was established in the frontier town of Zaru and the neighbouring city of Tanis. The mixture of the splendour of the flying sun with the animal hawk-worship of the aborigines, and with the Horus-worship of the other tribes, is a later confusion.

Mut, the mother-goddess, would not be expected to appear in this connection, as she is so regularly associated with Amen in later times. Yet the distribution of the cities of Mut is distinctly of the eastern type, while that of Amen, Map 4, is western. Her entry by the south is indicated by the worship of Mut along the Hamamat road, and her greatest temple of all was at Karnak, from which she is usually called Mut lady of Asher. Then there is no evidence northwards of her worship until the eastern road into the Delta, where she was worshipped at Heroopolis; apparently at Mendes, if *ab* (horns) *neteru* is equivalent to *ap* (horns) *neterui;* and certainly at Samhud in the central Delta, where she had a temple. Thus she clearly comes in from the Red Sea side and not from the west. The name of Samhud is also a link with the worship of Hudet, as it is "united to Hudet."

Set has the character of an early god, preceding the entry of Horus Behudet, who warred against him. He was certainly brought into Upper Egypt by the Desert road, as he had there two centres of the first class—Nubt, opposite the Desert

road, and Ombos; he also was worshipped at Thebes. He was brought in by the Red Sea way to the eastern Delta, where he appears as the god of the Pharbaethite Nome, as worshipped at Utuu in that Nome, and at Sapmeru, which may be Mert in the same Nome. North of this he appears as of Hermopolis; and that this is the Delta Hermopolis is shown by another place of his worship, Per-nehem, the



CENTRES OF WORSHIP OF THE GODS IN EGYPT.

goddess Nehemaui being of the Delta Nome. His great centre was that established later by the Hyksos at Hauar, or Auaris, which appears to be the camp at Tell el-Yahudiyeh. Thus, though early, Set is by no means aboriginal, but has been brought in at the opposite ends of the land, and was not recognised between.

Nebhat has closely the same distribution of worship as Set. Her centres were near Nubt, and between Thebes and Ombos. In the Delta her worship was at Per-mert, in the Pharbaethite Nome, and Onuphis probably north of that; also in the middle Delta at Iseum and Hat-shen in the Sixth Nome. Thus, her position is unlike that of the Osiris-Isis family, who appear in the western Delta and all along the Nile course. This certainly points to her having a similar source to that of Set, and not being originally in the Osiride family.

In Map 3 the Osiride triad are placed together, as there is little difference in the distribution of their worship. Osiris was eventually worshipped in every Nome, but it would have been useless to mark the whole country, so the names here are of those cities which held the greater relics of Osiris, presumably those places which principally worshipped him in early times. The distribution is very general, covering all parts of the Delta and a fair amount of the middle country. In Nubia, Horus alone seems to have been worshipped, perhaps identified with an aboriginal god. The general view of the Osiride triad is that of a settlement so early in the land that the worship was generally diffused.

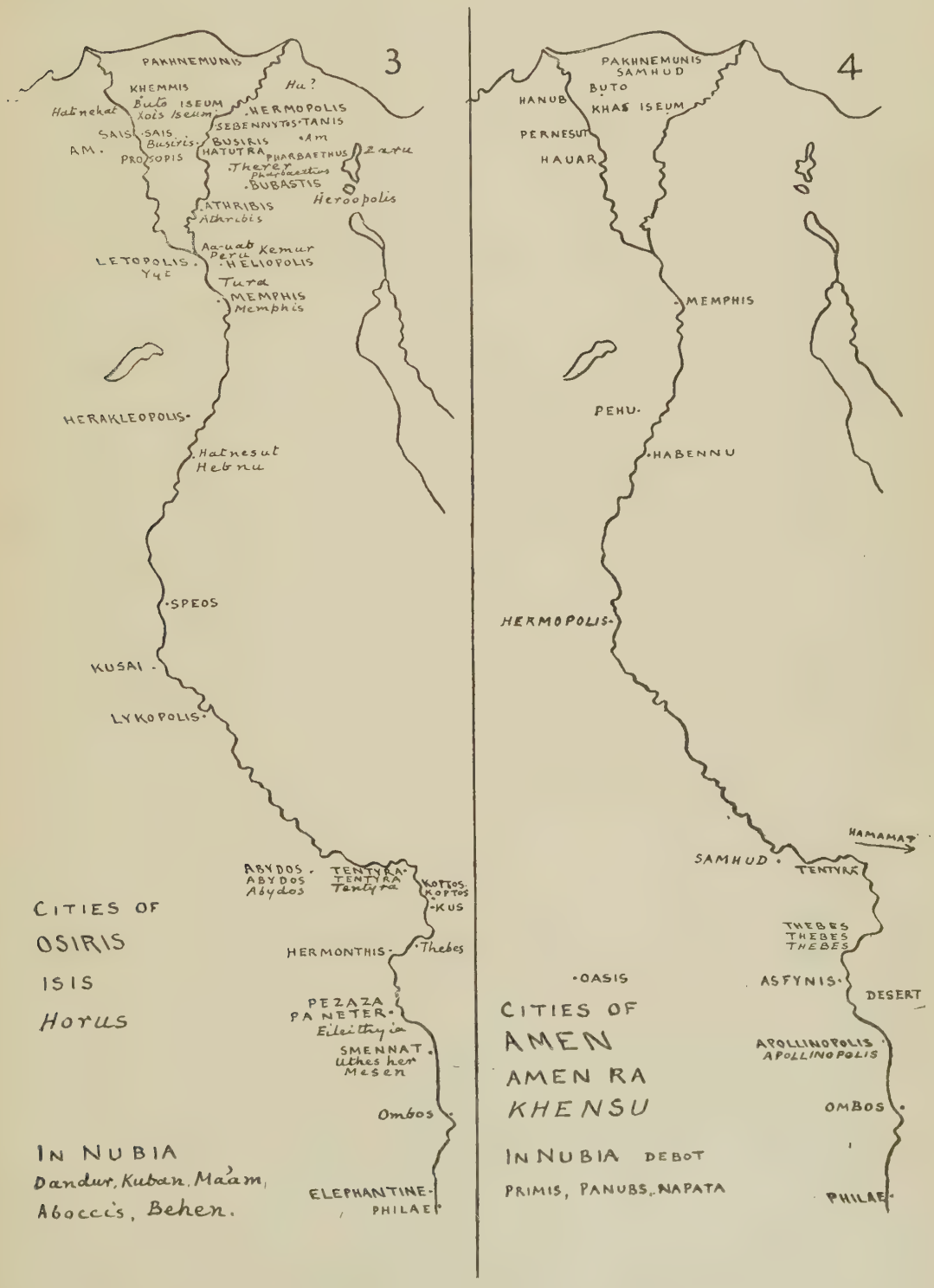
Amen, and his later form Amen-Ra, are somewhat different in their distribution, Map 4. They were entirely ignored in the eastern Delta, but in the central and western Delta had a firm hold. It does not seem as if their worship was due to the influence of the XIXth dynasty, for in that age the eastern Delta was the most developed. The earlier form, Amen only, is limited to the Thebaid proper, between Dendereh and Philae. The presence of Amen Ra as the great god of the Oasis, and the late importance of Zeus Ammon in Cyrenaica, point to Amen having been brought into Egypt from the west.

Khensu has a more Egyptian connection, belonging to the Thebaid down to Hermopolis, but never below that. This would point to his having come from the Red Sea, or else being a really indigenous god of the South, apart from the eastern and western influences, which took full effect in the Delta.

We now turn to some gods the worship of which seems to have been very early, and without retaining any traces of its source or introduction. In Map 5 are the cities of Tehuti and Anup, which are similar in their distribution, scattered equally all down the country, and without any prominence in the Delta. It is, however, only Tehuti whose worship entered Nubia. The position of Heseret is here placed at El-Asirat, as it is known to be in this region. But it has been compared with Hisoris, which is placed north of Ptolemais in the *Antonine Itinerary*, that is perhaps twenty miles north of Asirat. It is perhaps doubtful whether Lykopolis should be credited to Anup at all, as the whole jackal-worship there may be due to Upuat. There is, however, the distinct mention of "Anup lord of Sayut." The position of Anup altogether seems to be that of an indigenous god of the dead as a part of the aboriginal animal-worship, and it is only by quite artificial myths that he is brought into connection with later forms of the religion.

Other gods of an early type are noted in Map 6. Khnem, the creator-god, was worshipped along the whole country from Nubia down to the Sethroite Nome. His worship long preceded that of Ptah as creator, which was restricted to four Delta cities—Memphis, Bubastis, Letopolis, and Mendes. Beside these Ptah only appears as an artificial intrusion at Thebes and in Nubia, perhaps due to the

importance of the army corps of Ptah. Thus Ptah appears to have come late into Egypt and from the eastern side, while Khnem is the aboriginal god, probably formed from the primitive animal-worship of the parent ram.



CENTRES OF WORSHIP OF THE GODS IN EGYPT.

Shu and his consort Tefnut have much the same range. They belong mainly to the South, and only Tefnut once appears in the Delta, where she is placed at Rehu in the Hermopolite Nome (de Rougé, *Géographie*, 107). They seem to belong to a very primitive stage of the native cosmogony next after the animal-gods. Their human nature was not constant, as they were often figured as lions. Shu was evidently space which separates heaven from earth, and Tefnut seems to have been the moisture of space; these preceded the earth and sky which they formed.

We will now notice other gods which are so seldom localised that it is useless to map them.

Sekhmet appears at Bigeh by the Cataract, at Karnak, at Memphis, and Letopolis, and once in the Delta at Mansura (*zort*). She is said to be the chief over the Tahennu, pointing to a Libyan origin. It is difficult to see any link between her and Ptah, with whom she is associated at Memphis.

Min only appears close to the Hamamat region whence he entered Egypt. Koptos was his primitive Nome, and from thence he passed seventy miles up and down stream to Edfu and Panopolis; he also occurs at Dendereh, close to Koptos. Once he appears connected with Saqqara, and once with Nubia, but practically he is centred on the Desert road by which he was brought in, his mother being named Khenti-abti, "the leader of the East."

Hathor was very widely worshipped, with equal distribution from the Cataract down to the sea; also in Sinai and Byblos. The regular diffusion implies either a very early basis, or else state worship which spread irrespective of ancestral habit. The latter seems to have been the case here, as Narmer has heads of Hathor on his waist cloth, and Pepy repeats the Hathor head along a dado on his work. The regularity with which Hathor is associated with other gods in most of the Nomes, and is used as a secondary name of Isis, all points to a general worship by the dynastic people. Sebek was mainly worshipped in the Fayum, at Ombos and at Silsileh. There are also references to the crocodile-worship at *tep ant* (a cave near Memphis), at Bekhat (Sinai), at Thebes, at Athribis, and in the Metelite Nome. The worship was part of the primitive animal cult, but seems to have generally been at places where crocodiles were prominent. There does not seem to be a centre of worship corresponding with the great crocodile mummy pit at Ma'abdeh.

Mentu was the local god of Hermonthis; from there his worship spread south to Edfu and Elephantine, and north to Medamot and Dendereh, with—strange to say—an extension to the Wady Natrun. Though often mentioned in figures of speech in the New Kingdom, yet the worship was practically limited to the strict Thebaid.

Anher belonged originally to Thinis, but also was connected with the central Delta, at Sebennytos, and the XVIIth Nome, north of that; also in Upper Nubia. These centres seem to be only due to political movement.

Neit, on the contrary, belongs essentially to the Delta, especially Sais. She also is named with Athribis, Sebennytos, and Pa-nezer in the eastern Delta. Probably by political influence she appears at Esneh. While much noticed in names and priesthoods from the Ist to the Vth dynasties, after that she almost disappears until the great revival by the XXVIth dynasty at Sais.

Geb, though so fundamental a deity, was not localised beyond Memphis and the cultivation of Heliopolis, except in the very late temple of Ombos.

Similarly Atmu was closely localised to Heliopolis and Pithom. Sati was only recognised at the Cataracts—Syene, Elephantine, and Bigeh. Thanen was only worshipped at Hermonthis, and Dudu at Esneh. All of these then were entirely local gods, like special forms of Horus, and were not national except so far as they had been provided with a resting place in the general mythology.

Centres of Worship of the Gods in Egypt.

Of course in every age the god of the capital of the dynasty had the more general acceptance in the rest of the country, but seldom was called after other places, or had temples erected as new foundations.

From these positions of the worship of the gods we gain a fresh light on their relations and origins. Let us look first at those which, by their wide distribution, appear to be the earliest.

The gods which belong to the whole country, are Tehuti, Anup, Khnem, and Sebek. All of these are entirely animal-gods—the ibis, the jackal, the ram, and the crocodile, or else are, at least, represented with animal heads. They belong, therefore, by their nature to the earliest class of the gods before the Osiris triad. Now it has been already pointed out that the Ra myth has features even older than the second prehistoric civilisation (ANCIENT EGYPT, 1914, 21); and that the Osiris worship cannot therefore be put later than the first civilisation, thus according with the tradition that Osiris led the Egyptians from savagery. Accordingly, the earliest animal-gods must belong to the age before the settled civilisation and the earliest graves, to a condition like that of nomad savages, such as the Australians or Tasmanians. The nature of the animal-gods of such a people throws much light on their mental state. The protection of the dead by the jackal shows that the corpse was not disregarded, but was placed apart; or perhaps the jackal was allowed to eat the flesh, similar to birds being allowed to eat the bodies of the Parsis at present. The moon was the most attractive thing in nature to them, as Tehuti is the Moon-god, "he who is the moon," and Zehu, or Zehut, as a name for the moon is indicated by the words *zehat*, "the white metal, lead." This may be connected with צח, *tzakh*, "white, shining, or clear."

It is very notable that there is no sign of Ra being a primitive god; the worship of the flying sun, *hudet*, was only in the South and the Delta; the worship of Ra was originally only in Heliopolis. The Moon-god Tehuti was worshipped at sites along Upper Egypt, and had his second great centre at Hermopolis of the Delta. This is quite in accord with the ideas of the nomad Arabs, to whom the moon was a deity far more important than the sun. To a people who do not depend on cultivation, and see the need of sunshine to ripen crops, who live in a hot climate and do not seek the sun for warmth, to such the moon, lighting the night for hunting and wandering, is the more important light. From being the Moon-god, Tehuti naturally became the god of recording time by the revolutions of the moon, the primitive man's calendar. The month takes precedence of the year as a register in Arabia and various other countries; the solar year was fitted on to the months, and lengthened or shortened to fit them as might happen, leading to utter confusion in the Greek and Roman calendars. Thus the moon, the month, and the Moon-god claim attention before the sun and the year. The Moon-god becomes the measurer of time, hence he is the recorder, and hence the god of writing and of all learning.

The primitive animal-worship of the ram indicates that the savage Egyptian already recognised the essential action of the male, and this suggests that cattle-keeping may have been already practised for such a conclusion to have been observed. The name of Khnem was perhaps subsequent to the adoption of the worship. It appears to start from *khnem*, "to join," and hence to construct or build, much as we now speak of a carpenter and joiner, and of construction in wood as joinery. From construction it is natural for the word to be applied to creation, as we speak of the "Architect of the Universe." Hence the creative Ram-god had

the name of the Constructor or Creator. Later, when a human figure was adopted with a ram's head, the idea of construction was passed on to wheel-made pottery, which was unknown before the dynasties; then Khnem was figured as modelling men upon the potter's wheel.

Sebek, the crocodile, must have been a terror to be propitiated so soon as the pluvial period ceased in Egypt. No water could be obtained except from the Nile; and the Nile then was not the clear open channel that we know: it was a morass stretching across the valley, full of reeds along the shoaly banks, giving plenty of cover to the crocodile and hippopotamus. Whenever water was fetched from the river, or anyone went down to drink, the dread of the crocodiles' jaws was before them. Sebek was the one great evil power which must be propitiated before anything.

Thus the gods that are linked with the life of the savage Egyptian are: the regulating moon, the creative ram, the jackal for the dead, and the crocodile terror of the living.

The gods that belong more to the southerners are Shu and Tefnut. These belong to a later stratum than the preceding, as they are more abstract—space and moisture—and they are frequently of human form. Yet they were also figured as two foreparts of lions joined; or separately, Tefnut has often the head of a lioness and Shu is human. As they are not special gods of any one place, and are connected with the very early mythology of Nut and Geb, they appear to belong to a primitive period.

A later Moon-god was Khensu, who was also a southern god from Hermopolis to Ombos. His name refers, not to the whiteness of the moon, nor its time regulating, but to the gliding of the moon across the sky, sailing in its boat on the heavenly ocean. The root is *khens*, "to travel," or "pass through," and Khensu is "the traveller." The god is always represented with the crescent moon, or rarely, the disk alone. A curious feature is the compounding of Khensu with other gods, Khensu-Ra of Thebes, Khensu-Hor of Ombos, Khensu-Shu of Thebes, Khensu-Tehuti of Edfu and Hermopolis. These show that Khensu does not belong to the people who worshipped Ra, Horus or Tehuti. This excludes the animal-gods, the Osiris and the Ra worshippers—all the principal groups. As a purely human god Khensu belongs to rather a late stage in the mixture, and to a moon-worshipping people apart from the Old Egyptians. His position from Hermopolis to Ombos shows that he came in from the Red Sea side, or perhaps from Nubia. An Arabic source seems thus to be indicated.

The Osiride triad evidently belong together, by the similar diffusion of their worship, while other gods who were associated with this group are marked off by a different distribution, thus pointing to Set, Nebhat, and Anup as being really extraneous, and only incorporated in the family by tribal alliance. The diffusion along the whole country, and especially that on the west of the Delta, agrees with the western source of the triad. The chain of oases from the coast, the Wady Natrun, el-Bahrieh, Farafreh, el-Khargeh, and Kurkur, all served as stepping-stones for western tribes to pass into the Nile Valley along its length. The connection of Asar with the Libyan *Ausar*, *User*, "old man," has long been noticed; it may be added that Hor or Horus may likewise come from the Libyan *Arau*, "a child."

Amen was a god whose worship was rather similarly diffused, but not between Habennu and Tentyra. This distribution implies that the entry of Amen from his special Oasis of Siwah was by the Fayum and the Coast road; while the southern worship came in from the Oasis of Khargeh where Amen was also worshipped. The

Amen-worship certainly came in much later than the Osiris-worship. It has been supposed that the Amen-worship came from Ethiopia, but we know that it belonged to Thebes, in the Middle Kingdom, while there is no trace of Ethiopian civilisation till the New Kingdom, and no influence on Egypt till the XXVth dynasty. If the worship were of southern origin it would be very unlikely that most of the centres of it should be in the central and western Delta. The much nearer sources of the oases are far more likely. The presumption is that Amen belonged to some later occupants of the Libyan region, who came in subsequently to the Osiris worshippers.

In connection with Libya we should note Sekhmet being called chief of the Tahennu, as connected with her worship in the Delta and at the Cataract. There seems good ground for what is known as the "C" type of burials south of the Cataract being of a Libyan tribe (see Bates, *Eastern Libyans*, 245–252; ANCIENT EGYPT, 1914, 183). Hence it is reasonable to see in Sekhmet the goddess of these people, who were mainly in the Delta but also settled between the First and Second Cataracts. Her worship at Karnak would agree with the western importation of Amen there. She is, however, never associated with Amen, and belongs to a different and earlier stratum, associated with Ra.

Next turn to the entirely different type of distribution, that found only in the Delta and the South, or in one of these only. When it is in the Eastern Delta only, the importation from Asia is probable. When only in the South, importation from Nubia. When in both the Delta and the South, omitting most of the Nile Valley between those parts, then importation from the Red Sea by Suez and Koptos is the more probable course.

The only original centre of Ra-worship is Heliopolis, and the southern centre of Edfu is only due to a secondary identification of Ra with Hudet. It seems then by its position that this worship came across from Syria, like the later form of Heliopolitan sun-worship of the Aten or Aton, the Syrian Adon, or Lord. The obelisk was the special emblem of sun-worship, as the obelisk-temples of Ra in the Vth dynasty, and the obelisk of Heliopolis. The pair of obelisks before an Egyptian temple are the parallel of Jachin and Boaz before the temple of Solomon, the two pillars shown before the Syrian temples on coins and gems, and those described by Lucian at the gate of the temple of the Syrian goddess. The ascent of such a column, and sojourn there to commune with the god, stated by Lucian to have lasted for seven days, was carried on extravagantly into Christianity by St. Simon Stylites. The nature and the later name of the worship—Aten—therefore bear out the origin inferred from its position in Egypt.

The Hudet worship, of the flying sun with wings, centred at Edfu. Arising so far south suggests that it came by the Berenice road, which led into the Nile Valley opposite Edfu, passing the desert temple of Redesieh. Hence it is to the Red Sea or Arabia that we should look for its origin. A Semitic source is suggested by the Hebrew *huhd*, "splendour," which seems likely to be the source of the Egyptian name. As we have noticed, it was from Edfu that the historic myth describes Horus as going to found the Samhud cities of Middle and Northern Egypt, "united with Hudet." There is thus no question as to the starting of the worship from Edfu.

Min is another god who certainly came in from the Red Sea, but by the Koptos road, along which he was especially adored, and from which his worship spread up and down the Nile. Not only was his mother Khenti-abti, "the leader of the East," but the detail of the shrine associated with Min is well shown

(*Athribis*, 8, Pl. XX) as a conical hut, like those of the land of Punt, and it is stated (on Pl. XVIII) to be a building of Punt. Hence Min was derived from Punt, the modern Yemen, or else Eritrea.

Three gods have very closely the same distribution in North and South, and being on the east and not the west of the Delta they must be supposed to have come from the Red Sea; two of them are connected, Set and Nebhat, but the third, Mut, seems to be quite apart. That Set is closely similar to Sutekh there can be no question. Set was the god of the desert, and Sutekh was the god of the Hyksos desert-dwellers. As the Hyksos were eastern, and probably Semitic, so Set must have had a like origin. The second prehistoric civilisation, which came from the east, is therefore probably the source of this worship. The attack of Set on Osiris is the account of the second civilisation attacking the worship of the previous age. The conquest of Set by Horus of Edfu is the account of the subduing of the easterners of the second civilisation, by the reviving strength of the westerners of the Osiris group. If Set is thus connected with the second race, who seem by their productions to have come down from the eastern mountains, may not the steps which he guards, leading up to the sky, be the ascent of those mountains? Though they are not quite as high as Parnassus or Olympus, they might likewise be looked on as the dwelling of the gods, and the ascent be therefore the steps up to heaven. The regular title of Set, Nubti, may refer to the verb *nub*, "to fashion, or model"; thus Set would be the Creator, like Khnem or Ptah, fashioning mankind. The rival, Horus, then similarly was entitled Hor Nubti, Horus the creator, taking away the old title of Set. The position of Nebhat as wife of Set is strongly supported by the distribution of her worship being the same as that of Set. This serves to show that her place in the Osiris group is a secondary adaptation of the mythology, and that primarily she came in from the Red Sea with Set. Mut, the mother-god, is shown by the distribution of the worship, to have had a similar history. The name is purely Egyptian, and probably, therefore, a translation of the name in the original country of the goddess.

The general diffusion of the worship of Hathor, and her identification with many other deities or genii, points to her belonging to the dynastic people, as already stated. The movement of the dynastic people appears to have been by sea, round from the Persian Gulf and up the Red Sea into Egypt (ANCIENT EGYPT, 1917, 34, 36). Hence it is reasonable to connect their goddess Hathor with the West Arabian goddess Athirat, who was probably the Ashtoreth of Canaan. In Arabia she was the wife of the Moon-god; but among races where the moon was feminine she became the Moon-god, wearing the disk of the moon in Egypt with the horns of Ashtoreth Karnaim—"the horned"—as emblem of the crescent moon.

The geography of the worship of the gods is thus seen to have a considerable value historically, as bearing on their origins and connections. When more complete research into the localities of various uncertain names may extend our identifications, it will be possible to get more light on the sources of Egyptian mythology.

W. M. FLINDERS PETRIE.

A STATUETTE OF KHONSU.

THE statuette which is here reproduced represents the god Khonsu in mummified form, standing up, holding the whip in his right hand and the crook in the left, while with both hands he grasps a sceptre composed of and , the being also held in the left hand. He wears the side-lock of youth, and on the top of the head is the depression in which was originally fixed the lunar disk and crescent. The work is of bronze, which has suffered to some extent from oxidation. The wrappings of the body are covered with an elaborate design in electrum, the eyes, eye-brows, beard, headdress, collar, and bracelets being picked out in gold. The god stands upon two plinths; steps have been cut in the front of the smaller and its sides are decorated with a repetition of the signs in electrum, while the upper surface and sides of the larger bear an inscription. In its actual state, after the loss of the lunar disk, the work stands $2\frac{1}{2}$ inches high; the inscribed plinth measures $1\frac{1}{16}$ inch by $\frac{1}{2}$ inch. It is a very fine specimen of Saite craftsmanship, if, indeed, it does not date from an earlier period. A point of special interest is the unusual position of the head of the . If the figures of gods in, *e.g.*, the Cairo collection (Daressy, *Statues de divinités*) are examined, it will be observed that the *side* of the head generally faces the spectator, whereas in the specimen here figured we see the front. Among the few instances of the latter arrangement at Cairo are three statuettes of Ptah 38,445, 38,449, and 38,453). In the two former the top of the sceptre joins the lower part of the beard; in the third, as in our specimen, it is under the beard.

On the upper surface of the plinth, facing the god, are three columns of hieroglyphs:—

"Khonsu in Thebes, Nefer-hetep."

On the front of the plinth, and evidently intended to be read with the above, is with on either side, "His name which he loves." Along the sides of the plinth, meeting at the back, run two lines of inscription:—

"May he reward Uaua-ur, son of Pen-Ptah, for what he has done."

(*sic*)

" May he protect Uaua-ur, born of Mukhiy, from all evil."

Gold-inlayed Statuette of Khonsu.
Enlarged to double size.

The inscription is quite an exceptional one, and very different from the prayers for life, health, and strength which such figures usually bear. A rather long inscription on a statue of Ta-urt at Cairo (39,147) includes a phrase similar in sense but expressed in other words.

The figure is the property of Messrs. Spink and Son, who have kindly allowed me to publish it.

F. W. Read.

NEW PARTICULARS CONCERNING THE PRAEFECTI AEGYPTI.

THE twelfth volume of the Oxyrhynchus Papyri furnishes a good deal of fresh evidence concerning the Praefecti Aegypti, because of the numerous references in its texts, in distinctly dated documents, to prefects already known ; and also because these restore to history some half-dozen or more new names and their periods of office for prefects and vice-prefects. The new material mostly relates to prefects of the second and third centuries, and therefore the following remarks will chiefly be concerned with the Imperial governors during those periods.

Upon the commencement of the discoveries of papyri of the Roman era, the succession of the prefects was discussed by Milne, Offord and De Ricci, but has since been much more completely worked out by Cantarelli, whose treatise is well known to all papyrologists. The matter has also been studied by Dattari, whose erudition as a numismatist is well known, with the intention of publishing a "Cronologia dei Prefetti D'Egitto," and I am indebted to him for a copy of his tabular arrangement of the prefects made some four years ago, before the appearance of the last two volumes of the Oxyrhynchus Papyri and two parts of the Florence Papyri, and several volumes of the Berlin *Griechische Urkunden.*

Papyrus 1547 gives a document dated in A.D. 119, as engrossed under the regime of Quintus Ramnius Martialis, for whom we previously had an inscription of A.D. 118. Between this date and A.D. 131, only one prefect's name was derivable from previously published papyri. Dattari, however, in this gap, probably from information from coins, placed a Marcus Moesianus and a Claudius Julius. Nothing corroborating their position as prefects appears in these new papyri.

Papyrus 1451 decides that A.D. 175 was one of the years of office of Gaius (Flavius) Calvisius Statianus. The praenomen given him by Dio Cassius is omitted in the manuscript. His name has been found in an inscription at Verona ; see *Cor. Ins. Lat.*, V, 3336. Between this prefect and T (or L) Pactumeius Magnus, Dattari places a Claudius Julianus, but does not say upon what evidence.

We now arrive at one of the entirely new names, that of (Lucius) Baebus Aurelius Juncinus, for the years A.D. 210 to 214—years to which Dattari assigns M. Duca Fluminianus—excepting that the cognomen Juncinus appeared upon a papyrus now at Giessen.

In their comments concerning prefects of this period, Drs. Grenfell and Hunt mention that, for the year A.D. 241, a Strasburg papyrus gives a name Annianus.

The date of A.D. 245 is now provided for Valerius Firmus, for whom an Amherst papyrus also gave 246 or 247.

A Florence papyrus appears to assign Aurelius Basileus to A.D. 245.

Ox. Papyrus 1468 gives a fresh name, Titianus Claudianus, who was in office subsequent to A.D. 230, but before 258. He may have only been a vice-prefect.

Lucius Mussius Aemilianus, deputy prefect of Papyrus 1468 of A.D. 258, also to be found in Ox. Papyrus 1201, appears to be identical with De Ricci's "Marcus Julius (?) Aemilianus." In a Rylands papyrus he is styled praef(ectus). Another Rylands papyrus, Dr. Grenfell mentions, gives a prefect Κουσσώνιος for the thirteenth year of Gallienus.

If L. M. Aemilianus was prefect in A.D. 258, he clashes with M. Marcus Brundisianus, whom Dattari, on the authority of Botti, places in that year.

Papyrus 1467 contains a petition to a prefect whose name is missing. It is of the year A.D. 263, and the editors suggest the prefect was Aurelius Theodotus, known to us from a Strasburg papyrus. This name was given by Cantarelli.

In a previous volume of the Oxyrhynchus Texts IX, Papyrus 1191 introduced a prefect for A.D. 280 to 281, whose name, Hadrianus Sallustius, is to be found in Amherst Papyrus 137.

Another new name is Marcus Aurelius Diogenes, A.D. 284 to 286, Papyrus 1456, successor to Pomponius Januarianus, Ox. Papyrus 1115, but previous to Flavius Valerius Pompeianus, who held office in 287.

In A.D. 298, Papyrus 1469 presents a fresh name, that of Aemilius Rusticianus, a deputy prefect. The text terms him, "the most illustrious deputy in the most eminent office of prefect."

In the following year Papyrus 1416 gives (Aelius) Publius, whom Ox. Papyrus 1204, had already revealed to us.

Papyrus 1558 presents a new prefect name, that of Fl. Julius Ammonius; he is entitled prefect of Augustamnica, and so must be dated subsequent to A.D. 341, when the districts in the neighbourhood of Memphis and Babylon took that name. One of the new documents is a letter from a high official named Nicon, who may have been a prefect, but the editors, from further information in a Leipzig papyrus, think he was a Praeses.

Cantarelli was able, from references to him in the work of St. Athanasius, to place a Philagrius as prefect A.D. 334 to 336. His name occurs now twice in Ox. Papyrus 1470, and so is certified by this new form of historical evidence.

A prefect, F. Entolmius Tatianus, in power from A.D. 367 to 370, was only known from Suidas and Photius, but he is mentioned in Ox. Papyrus 1101. According to the Chronicle Puteanum, he continued in office for a second time up to A.D. 373. See also John of Nikiu c. 82, and Cod. Theod, XII, 18, 1. According to the *Egyptian Gazette* the name of a prefect Urulius Genus has been found in the Roman forum at Luqsor.

JOSEPH OFFORD.

PERIODICALS.

Annales du Service des Antiquités de l'Égypt. Tome XV, Fasc. iii.

(*Continued from* ANCIENT EGYPT, 1916, *p.* 39.)

AHMED BEY KAMAL.—*Le Tombeau nouveau de Mêr.* This is a description of a finely decorated tomb of Pepy-onkh-her-ab, and copy of the inscriptions, occupying fifty pages. The burial had been anciently destroyed and the coffin broken, but much was left of the funeral furniture. The scenes, inscriptions and lists are of the same character as those of other tombs at Meir and Deshasheh, and we may hope that soon Mr. Blackman will be able to continue his work and copy this uninjured tomb as carefully as he has done others. In the burial pit of Pepy-onkh-her-ab there was much pottery, food offerings, copper saucers containing bread, and seven alabaster vases. In the pit of his wife Aoh-hat was a mirror, arms of a wooden statuette, two flint knives, two alabaster vases, a very rare copper kohl-pot and stick, five model axes, seven knives, seven adzes, seven chisels, eight other tools of copper, etc. In the serdab was a group of two figures of the owner and wife seated, carved in limestone about life size, without inscription.

DARESSY, G.—*Un Monument du temps des Hyksos.* This is a block of limestone found by Prof. Naville at Tell Maskhuta, and supposed to be of the XXth dynasty. M. Daressy detects that it is a much older monument, which has been recut with later details under Sety I. It is suggested that it was carved in the XIIIth dynasty, and represented a king warring on the incoming Hyksos. The original god figured was Hor-Sopdu.

LEGRAIN, G.—*Le premier Prophète d'Amon, Ap-ouaitou-mes.* Four fragments of a wooden box from Thebes bear the name of the hereditary prince, chief prophet of Amen over all the prophets of Thebes, Upuatmes. This is probably about the time of Amenhetep III.

LEGRAIN, G.—*La Litanie de Ouasit.* This text from the south-east of the hypostyle hall of Karnak is compared with a duplicate of Ramessu III, and here published in parallel columns. The goddess Uast is Hathor of Thebes, and it is stated that all the goddesses beseech her to be favourable; the goddesses are named in geographical order from the Cataract down to Heliopolis.

LEGRAIN, G.—*Les déese Shahdidiyt.* This goddess is known in five personal names, but not from other sources; the type of name seems to be foreign. The names are on a squatting statue in diorite of Pedashahdidiyt (Posno); a steatite statuette of P-sa-na-mut son of Pedashahthetthet (Naples); a figure of Khonsu dedicated by Pedashahthetht son of Horuza (Cairo); a stele of Pedashahtheth

son of Hor (Louvre); and an ushabti of Pakhadas son of Tashadyd (Vatican). It seems not impossible that the first four are all of one man. It appears likely that this is the Arabic *shadyd*, "intense, mighty," the mighty goddess? The root is an early one, as in Hebrew El-Shaddai, the Almighty; *shiddah*, "a mistress."

Tome XVI.

DARESSY, G.—*La Statue d'un Astronome.* This is a black granite statue, twenty-five inches high, from Tell Ferain, otherwise known as Nebesheh. Down the back pier are three columns of inscription, of which a few signs are missing at the bottom, where the feet are broken away. The text ends in two columns on the flat surface behind the left leg. As the text is unique in subject, the whole of M. Daressy's rendering is here quoted:—

"The heir and prince, sole friend, versed in science, observer of all phenomena, celestial and terrestrial, skilful for observing the stars without neglecting half of them, tracing a horoscope based on their positions and the gods who rule destiny; having been instructed about them and their days, about the influence that Venus has on the earth, he makes glad the land by his predictions. Observing every culmination in the sky, knowing the rising of . . . . . (he indicates) every feast at its right time; announcing the rising of Sirius at the beginning of the year, he observes the day of its feast; having calculated its coming at the epochs assigned, observing all that it does every day, all that it regulates is known to him. Knowing the northing and the southing of the Aten, he measures all its variations, he uses them to show the hour by the sun, determining their coming at their moment, and the hourly changes in the time of obscurity. The movement of the star of Horus in the sky . . . . . perceiving the things of the master, that which he observes in the sky he applies to the earth. Knowing their breath . . . . . No objector rose up against his decision after he had decided a matter according to all that he observed, no master could reverse one of his counsels to the Lord of the Two Lands. Subduing the scorpions, knowing the retreat of reptiles, showing their place and extracting their serpents, shutting the mouth of their inhabitants, their serpents . . . . . initiated in the mysteries, favouring his travels and protecting his ways, mastering the adversaries of his expedition . . . . . making him happy by his counsel, god making his love as the master of the scorpion, Horkhebt, son of the devoted to Uazet . . . . . ." Thus Horkhebt was astronomer, astrologer, regulator of the calendar, magician and councillor.

CLÉDAT, JEAN.—*Fouilles à Khirbet el-Flousiyeh.* This site is the ancient Ostracine, at the eastern extremity of the Serbonian lake, Sebkhat Bardowil, rather more than halfway from the Suez Canal to Gaza. The ruins are in a marshy plain, inaccessible during much of the year, like Pelusium, showing how the sinking of the Delta coast extends toward Syria. Nothing is known here before the Roman period; the place was best known in Byzantine times, and until 1302, when it was finally ruined by an earthquake. Two churches and a fortress were excavated by M. Clédat. The buildings are all of cut stone, and burnt brick is very unusual; the crude brick building is Arab. The fortress is an irregular pentagon, about 800 feet across. The wall is 6 feet thick, built of a hard concrete of flints, chips, plaster, and sand, faced with cut stone. The facing blocks are some as much as 3 feet long, and the courses usually 16 inches, in regular lines. Beams of timber are laid through the mass to strengthen it. The walls of the

churches are similar, but those of the private houses, being only 15 or 20 inches thick, are simply of two facing stones filled in with plaster, with some headers to bond it. In the fortress the sand has blown in over a dozen feet deep; the walls are believed to have been 20 or 24 feet high.

The southern basilica was, over all, 203 feet by 72 feet, the walls 3 to 5 feet thick. The atrium was 60 feet square, with colonnades on three sides. There were three doors into the narthex. The church proper was 172 feet by 64 feet. All the tombs are now under water. The northern basilica is not so large, the church proper being 65 feet by 33 feet. Both the basilicas were apsidal, with the bishop's throne in the back of the apse, and the altar in an enclosure free standing, between two bays of the nave. In the northern church the throne is free standing, approached by four steps, and behind it, with access on either side, is a sub-apse, the structure of which is not clear. M. Clédat does not seem to recognise the early apsidal position of the bishop's throne, as in the early basilicas of Rome. All of the buildings have suffered greatly by the abstraction of the marble linings and the cut stone masonry.

LORET, VICTOR.—*Quelques Notes sur l'arbre âch.* This is a reply to the paper by M. Ducros, see ANCIENT EGYPT, 1916, p. 34. The various characteristics of the *ash* wood are collected. It produced tar or pitch, it was used to make coffins of the priests, its gum is represented in red lumps in the tomb of Rekhmara, it was the wood for beams up to 19 cubits long, masts for boats up to 22 cubits, and even 42 cubits, and masts for pylons up to 60 cubits (103 feet) high. The great pylon of Karnak would need masts 170 feet high. It is evident, therefore, that a very large conifer is the tree in question. M. Loret gives up entirely his former proposal of *Acacia seyal*, and states the thirteen different conifers found in Syria, from whence the *ash* was brought. These are all inapplicable for various reasons, excepting the *Abies cilicica*, the Cilician Pine, which grows to 50 feet in the Taurus range, and up to 100 or 150 feet in the Lebanon. The great masts are called by the Egyptians the "true *ash*," implying that there was an inferior tree similar to it. As the *Abies* cannot grow on the sea plain, as described in the tale of Bata, M. Loret proposed to see the inferior *ash* in *Pinus pinea*, which, in Syria, reaches to 65 feet high, and which grows down to the shore. For most purposes this more accessible tree would be the *ash* of the Egyptians, but for the greatest masts they obtained the largest conifer, *Abies*, and called it the "true *ash*."

THOMAS, ERNEST S.—*An Unexplained Object depicted on the Tomb of Hesy.* The object has been supposed to be a form of sieve, but Mr. Thomas suggests that it is a sectional view of the cylindrical measures of capacity nested one in another. In a later age, when modes of drawing were fixed, such a representation would be impossible, but as the drawing of series of objects was only starting about the time of Hesy, it is quite possible that the artist was feeling about for modes of expression. The highly mechanical genius of that age might well have conceived of a section of a group.

DARESSY, G.—*Fragment de Socle de Statue provenant d'Athribis.* This gives the titles of the high priest and others of Athribis. The persons are Mer-hor-tef-ef, Tehuti-her, Haqerut, Pef-bastet, Pedakhut, Pen-khebt-uzu, Horta, Hor-hetep, and Zeher.

DARESSY, G.—*Stèle de la XIXe dynastie avec textes du Livre des Pyramides.* These texts are found in Unas ll. 5 to 9, Merenra ll. 172–173, Unas ll. 479–488, Pepy I ll. 638–641, Merenra ll. 667–673, Unas ll. 526–531, 591, Pepy l. 680. The persons represented are named Bakt, Huy, Năy, Ptahmery, Nefertari, Ho-nefer-atu, Ptahmay, Nesut-ubă-oo named Thaiu, Rennut.

DARESSY, G.—*Fragment Mendésien.* The top of the back pier of a black basalt statue naming the deities of Mendes, Horpakhred, Ba, and Hatmehet Usertsăt.

DARESSY, G.—*Le Fils aîné de Chéchanq III.* On a stele of the 14th year, the king's eldest son is named Baken-nefi; he gave lands at Heliopolis as endowment. The persons named are Peda-bast son of Tada-bast, Pa-khred-ast, and Nes-un-nefer.

DARESSY, G.—*La Chaussée de Mentouhotep V.* This calls attention to the discovery of a paved road 50 feet wide, which M. Daressy followed for 260 feet, just south of the Ramesseum, between that and the chapel of Uazmes. This appears to be the lower end of the causeway leading along the southern side of the Deir el-Bahri bay, as pointed out by Mr. Winlock, see ANCIENT EGYPT, 1916, p. 83.

AHMED BEY KAMAL.—*Fouilles à Deir Dronka et à Assiout.* This is a list of one hundred and sixty-one objects dug out in the plundering by Sayed Bey Kashaba, without any record, in the manner usual fifty years ago. From inscribed coffins down to ushabtis, everything is without history or connection. The continued wreckage of the remaining antiquities of the country, under the patronage of the Department of Antiquities, is inexplicable and inexcusable at the present day.

DARESSY, G.—*Un Sarcophage de Tounah.* This is one of the clumsy granite sarcophagi of the XIXth dynasty, 90 inches long, 34 inches wide. It was at the bottom of a pit 37 feet deep, but it had been completely plundered, and no other objects were with it. The deceased was Tehutmes, keeper of the cattle of Amen, as he is usually described, and perhaps the same as the owner of the large lazuli scarab, in *Scarabs*, xxxviii, 31. He also had the titles of great keeper of the cattle of Amen in the south and north, royal scribe, keeper of the palace, over the works of the king, over the messengers (*uptu*), over the works in the temple of Tehuti, declarer of truth (*up măot*), over the granaries of the temple of Amen, over the house in the divine pylon made for him to his lord.

DARESSY, G.—*Un Naos de Domitien.* This shrine is of limestone, 25 inches wide, and 42 high. It has been damaged, but the back bears a long hymn to Tut, in seven columns. This Tut is a lion-god, hitherto unknown, and said to "judge in the double hall of truth at Heliopolis."

DARESSY, G.—*Gaston Maspero.* This is a recital of the official work of the late Director, without any personal note, or any of the intimate detail which might have illustrated his character, from one who knew him so well.

BARSANTI, A.—*Travaux exécutés aux Monuments de Philae.* Since the inundation of Philae, shipping and steam tugs wander over the temples and do serious damage. An obelisk was broken and overthrown, and three columns and architraves were shifted. These have been rebuilt, but the risk of damage is obvious, and a fence of booms would seem to be urgently required around the buildings to prevent their gradual overthrow.

LEGRAIN, G.—*La Statuette de Hor.* This is a squatting figure, with the arms round the knees, 16 inches high, of green basalt, found in the sebakh at Dendereh. The exact similarity to another figure dated to Psamtek I, serves to fix the age of this. It is of Hor son of Zed-tehuti-au-onkh son of Pesthenfi.

LEGRAIN, G.—*Trois Régles graduées.* These are three basalt cubit rods, which were found complete in the sebakh at Dendereh. One bears a demotic dedication to Hathor of Dendereh by "Pana son of Psibast, the man of Sardes, and Pet-hor-suten-ta son of Pana son of Lebren." From the writing, this is dated about 200 B.C. Only the total lengths and breadths are stated, 20·8 inches, 21 inches and 20·8 inches long; 1·5 inch square and the latter two 1 inch square. The whole of the divisions need to be accurately measured. The lines on the inscribed cubit are, on 1st face palms, the end ones divided into digits, one end digit in half and quarters; 2nd face, the end quarter divided into ·03, ·06, ·1, ·125, ·2, ·25 of the whole, evidently a decimal division; 3rd face, in 6 palms, one end palm is thirds, the other quarters, the end quarter in half and quarters. Thus there is here the usual 7 palm division, the rare decimal division, and the almost unknown 6 palm division. The second cubit is divided on three faces into 5, 6, and 7 palms respectively, the same system as the previous. The third cubit has the four faces divided into 4, 5, 6 and 7 palms.

LEGRAIN, G.—*Observation d'un Phénomène optique.* It is remarked that the statues of Ptah and Sekhmet, in their sanctuary at Karnak, show patches of polish on parts of the surface; the feet and the left hand of Sekhmet especially. These seem to be parts which were touched by worshippers, like the foot of St. Peter at Rome. Also other statues, especially those of Amenhetep son of Hapi, who was an intercessor, and of Ramessu, the founder of the XIXth dynasty, show patches of wear by touching. This implies that vast numbers must have come to these statues to thus polish the granite by light friction, and suggests that the shrines were open to all worshippers.

The optical phenomenon is the familiar change of lighting by the passage of clouds over the sky opening, like the shadow figures seen in some Coptic churches lighted through small side openings.

LEGRAIN, G.—*Une statue de Horoudja fils de Haroua.* Five statues of this prince are known, and now a sixth has been found at Dendereh. It is a squatting figure of "the hereditary prince, high priest of Heliopolis, Horuza son of Harua," of the same titles.

LEGRAIN, G.—*Un Miracle d'Ahmès* I^er^. A stele shows the bark of Nebpehtira Aohmes on the shoulders of eight priests, conducted by the prophet Paari, and before it is the priest of Osiris, Pasar, adoring. Below is the inscription, "year 14

Paophi 25 (B.C. 1287, Aug. 21), in the reign of the king of Upper and Lower Egypt, *usermăotra setep ne* . . . . Son of the Sun . . . . . *messu*, giving life, the day of the coming of the priest Pasar with the priest Thay to bring (the oracle) Nebpehra. The priest Pasar came to the field which belonged (to my) son. He heard the (clamours ?) of the children of the people. Was the god to establish (the truth ?). Came the god at the saying, 'It belongs to Pasar son of Mes,' and the god became very heavy in the presence of the priests of Pehnebra, the prophet Paari, the forward priest Ynuzabu, the (. . . . .) priest Thanefer, the backward priest Nekht, the backward priest Tehutimes. Made by the sculptor scribe of the temple of Amenmery Rameses in the temple of Osiris, Nebmehy."

This dispute about the ownership of a field was settled by the oracle of Aohmes I. His bark was borne by the priests into the field, and when asked if it belonged to the priest-claimant, these bearers declared that it became very heavy. This is precisely the belief of the modern Theban. A sealed declaration of the bearers of the bier of Sheykh es-Sayd Yusuf states that when they reached the side of the shrine of Sheykh Abu-el-Abbas, the bier became so heavy that they could not proceed. It seems likely that the previous translations about the god bowing in response really refer to the priests being bowed down by the weight.

LEGRAIN, G.—*Où fut Thèbes-ouasit?* This paper shows that *uast* was Karnak rather than Qurneh. The temple of Qurneh is stated to be built on the west of *uast* (*per ament uast*), to see the beauties of *uast*, looking across the river to Karnak.

LEGRAIN, G.—*Fragment de texte titre nouveau.* This reads: "Over the workers (*ubă*) in the lake north of Amen." It is supposed that this refers to a pond north of Karnak. What the workers did there—irrigating, water-carrying, leather-curing, brickmaking—is unknown.

DARESSY, G.—*Une Stèle du dieu Ched.* The familiar figure of Horus protector standing on crocodiles, is sometimes specialised under the name of *Shed*, the saviour. Here is published a stele showing "Shed the great god" standing, holding a scorpion in the right hand, and in the left a shield, spear, and two serpents. He is adored by Pa-her-pedt, his son Amenmes, and wife Nubarset; these family names prove that he is the same as is named on a coffin in the royal group of Deir el-Bahri.

DARESSY, G.—*Les Parents de Chéchanq Ier.* A stele shows the great chief of the foreigners, Sheshenq, adoring Osiris, son of the great chief of the foreigners, Nemart; his mother, daughter of the great chief of the foreigners, Thentspeh. This is taken as referring to Sheshenq I, and agreeing with the prevalent misreading of Horpasen's genealogy. All it shows is that Nemart and Thentspeh, the daughter of Usarkon II, had a son Sheshenq, who succeeded to his father's titles. This does not represent a king, but a subject.

DARESSY, G.—*Un Scarabée d'Amenhetep IV.*—This describes a big scarab, like the historical ones of Amenhetep III, giving the cartouche of the living Aten and titles of Nefer-kheper-ra ua-ne-ra, living in truth, Amenhetep, divine prince of Thebes, and the royal wife Nefertythi. The cartouches of the king are also, one

on either side, under the legs. The continuance of the fashion of big scarabs into the beginning of the reign of Amenhetep IV is already known from that in *Scarabs*, XXXVI, 1.

CARTER, HOWARD.—*A Tomb prepared for Queen Hatshepsuit.* The greatest discoveries at Thebes are those due to the ever-searching eyes of the natives: the royal mummies of Deir el-Bahri, the tomb of Amenhetep II and its hoard, the tomb of the priests of Amen, and now an entirely new type of royal tomb in a most unsuspected position. Far back in the valleys behind the Tombs of the Kings are now found tombs high up in the cliffs, belonging, probably, to the queens of the early XVIIIth dynasty. Notice was first called to the doings of the natives by a large find of jewellery appearing in the market. Then it was traced to the new region, and now Mr. Carter has cleared out one tomb, and found in it a sarcophagus for Hatshepsut. High up on the cliff face, over 200 feet above the valley, was a cleft in the rock, hidden by a rise in front. As the cliff is 360 feet high, it is hardly more accessible from above than from below. The Arabs reached the place by creeping down a cleft until they reached a ledge of rock, and then lowering themselves down by a rope into the cleft of the tomb. In the base of the cleft was cut a flight of five steps, leading to a passage, this turned to the right and led into a chamber, and there, standing askew, was the sarcophagus of yellow crystalline sandstone, much like that in red sandstone, which was the actual tomb of the queen found in the Biban el-Meluk. On this sarcophagus she is called the great heiress, princess of all lands, royal daughter, royal sister, divine wife, royal wife; this shows that it was made during the reign of Tehutmes II. The tomb was evidently unfinished, and had been abandoned when the queen took the throne, and determined to be buried among the kings. The whole passages and chambers were filled with rubbish and earth washed in and hardened. The Arabs had run a burrow 60 feet in, but not to the chamber; the complete clearance, however, yielded nothing but the sarcophagus. How the Egyptians raised the sarcophagus, weighing much over a ton, up 200 feet of cliff, and then turned it in down the passage, is quite beyond all that we have seen of their engineering. No one better than Mr. Carter could be engaged on this new field, and we hope to hear much more of his results in future.

AHMED BEY KAMAL.—*Quelques jours de fouilles à Dimeh es-Sebaà.* A brief account of this much plundered place, with a list of objects removed in the digging of Sayed Bey Kashaba.

NAVILLE, ED.—*La plante de Horbéit.* This plant is the flower on the head of Nefertum, which resembles the lotus. It is mentioned in a text which occurs on a fragment of XIth or XIIth dynasty sarcophagus at Horbeit, in the south hall of offerings at Deir el-Bahri, Chapter 178 in the Book of the Dead, in the XXVIth dynasty tomb of Aba, and in the XVIIIth dynasty tomb of Puamra. The name of it is "the *sennu* which comes forth from Nut" (Puamra); in the Papyrus Ebers is mentioned, "the plant named sennut grows on its bulb as the *kartu*, it has a flower like a lotus." It is not identified.

Nefertum is often called Mahes, "the terrible lion."

DARESSY, G.—*La nécropole des Grands Prêtres d'Héliopolis sous l'ancien Empire.* Along the eastern wall of the great temenos of Heliopolis have been found four

large tombs of the high priests of the VIth dynasty. They were named Meru, Sebeky, Sebeky By, and Khuneher (Glory of Horus). These were built of limestone, closely enclosing the sarcophagus, with a space of rather over half the sarcophagus length at the entrance. All of the burials had been completely plundered; there only remained, of Meru fragments of two alabaster vases, and of Sebeky the same, and six model chisels of copper. From Sebeky By there were many models, 25 axes, 4 round-head axes, 26 round-head adzes, 12 square-head adzes, 10 double-edged knives, 77 single-edged knives; and of alabaster 9 necked vases, 2 splayed vases, and seven saucers.

Each chamber is inscribed with titles and name on each side, and with long rows of offerings, similar to the interior of the finest wooden coffins of the XIIth dynasty, such as *Riqqeh*, XXXIII. It is evident that this style of coffin is descended from the small tomb chamber of the Old Kingdom. The first two tombs had a basalt table of offerings in each. In the first three tombs the sarcophagus had a band of inscription on each side. All of the tombs have been removed to the Cairo Museum, and it is to be hoped that they will be published in facsimile, drawing or photograph, as printed type is inaccurate for the detail, and entirely useless for the style.

During the excavation of these tombs minor objects were found; naturally at Heliopolis obelisks are usual, four occurring, with names compounded with Pepy and Meryra, showing the period.

DARESSY, G.—*Une Inscription d'Achmoun* (Delta). This is on a slab of basalt which originally was prepared for annals of the XVIIIth or XIXth dynasty, having a mention of Tunep. This was reversed, and in the XXXth dynasty a long ritual text was engraved. Lastly, it has been used as a millstone, like most of the hard stones of the Delta. First is set out in lists all the materials needed for a ceremony, then follows directions to the *her-seshta*, showing that this was a priestly title; then the speech of the *seq-hât;* then, further directions for the *hensek*, *seq-hât* and *her-seshta*, a lamentation and further speech to the goddess Nubt, whose service is described. M. DARESSY discusses the varieties of kohl named, and other words. For *Khesyt* is proposed the fruit of *Cassia fistula.* It is concluded that this stone had been brought from Tell Abu Billeh (Terenutis) in the nome Amu, and various place-names which occur are discussed to identify them with known sites, ending with a list of twenty-five identifications and a map of the nome. This text is, therefore, of much value for geography.

MUNIER, HENRI.—*Un passage nouveau du Martyre de Saint Philotheos.* Some fragments were already known about this Saint who was martyred at Antioch in the Diocletian persecution. Part of the martyrology, with some wild miracles, occurs on three leaves in the Musée Borgia, here published and translated.

MUNIER, HENRI.—*La Stèle funéraire du moine Mîna.* This tombstone, dated in 869 A.D., is notable as giving the name of Babylon surviving then, and not yet displaced by an Arab name.

DARESSY, G.—*Fragment de statue du Prince Khâ-m-uas.* This statue was at Sheykh Embarek, and is only of interest as naming two local Hathors, of Cusae and of Roant, the latter probably a place by the valley of Speos Artemidos.

DARESSY, G.—*Le Mastaba de Khâ-f-Khoufou à Gizeh.* This has been partly published in Mariette's *Mastabas*, and by de Rougé and Gauthier. The texts are here given in type, but for a tomb of this importance there should be a facsimile publication. The tomb has been anciently altered by vaulting over the court and making it into a storehouse.

DARESSY, G.—*Statue de Georges, Prince de Tentyris.* This figure was found in the sebakh at Dendereh. It is of black granite, $3\frac{1}{2}$ feet high, of the Late Ptolemaic period. The name George is known in classical times, though rare. He was a high civil official, hereditary chief, and also prophet of Isis and of Hathor, the head of all authority in Tentyris. From this and another statue is gleaned the genealogy of these princes of Tentyris, apparently Pa-khred-bast, Pennut, Pakhred-ka, named Ptolemy, and Quuarkes or Georgios.

REVIEWS.

The New Archaeological Discoveries and their Bearing on the New Testament and upon the Life and Times of the Primitive Church.—CAMDEN M. COBERN, D.D. 8vo. 698 pp., 37 pls. (Funk & Wagnalls.) 3.00 dollars. 1917.

This is a book that was much wanted, to focus together the varied material, especially papyri, that bore on Early Christianity. The work has been done with the responsibility of selection, but letting each writer quoted speak for himself in copious extracts. Everyone who is not already a specialist in these studies will be much indebted to Dr. Cobern, and the work ought to have a very wide circulation. The only matter which seems to require fuller treatment in proportion is the present state of catacomb research, and a report on that, free from the theological preoccupation which seems to colour recent accounts, would be very welcome.

The work is divided in exactly equal halves, on the papyri and on the monuments. The qualities and nature of papyrus, the principal papyri known, and the general character of the great finds of papyri in the Fayum and elsewhere, begin the work. Next is Deissmann's new view that the New Testament Greek is the Hellenistic vernacular of the time, the same popular language seen in the innumerable letters and documents of the first century; also examples of papyri bearing on the ideas of the people. Then an account of the Fayum, and the condition of the towns anciently. This serves as an introduction to the whole subject. We would only amend one passage where the burnt papyri of Thmuis, which were so sadly ruined in excavation, are referred to with the remark that "it has just been discovered that even these burned papyri can be read." It should be remembered that ten years earlier the burnt papyri of Tanis were recovered without any loss, and two long and important ones read and published. This success should have prevented the failure to manage the Thmuis find.

The next division of the book deals with the New Testament, its origin and textual form, grammar, style, and vocabulary, from the contemporary point of view, giving an active view of the general results. Next is an account of the great codices and the many fragments of gospels and epistles older than the great codices; this shows the very important evidence that they give as to the identity of the codices with the pre-Constantine text. The great interest of the Syriac, Coptic, and other versions is described, and their bearing on the early text.

The collateral documents are described at length, apocryphal, apologetic, and liturgical. To some, this may be the more attractive part of the work, as giving an insight on the tone and ideas of early Christianity, as to how the canonical writings were fitted into the mental frame of the Greek world with its teeming ideas and beliefs. The Logia papyri are quoted and discussed. A description and extracts are given of the Gospel of Peter, written shortly before or after the close of the first century; of the Revelation of Peter; the fragments of lost gospels from Oxyrhynchos; the Apocalypse of Baruch; the Acts of Paul, of which the Paul

and Thekla forms a part, probably of the first century; the Conflict of Severus, and various other apocrypha. Of other writings there are discussed the Apology of Aristides, the Shepherd of Hermas, the Ring of Pope Xystus, the Apostolic Teaching of Irenaeus, Origen on the Book of Revelation, the Letters of Ignatius, and the Teaching of the Twelve Apostles. Nearly all these, be it remembered, were unknown forty years ago, beyond their mere names. It is evident that we must take a far more living and substantial view of the first two centuries than our fathers did, who regarded the New Testament as something floating in air, detached from all history of its surrounding ideas.

The Libelli, or certificates of paganism issued during the persecutions, are next quoted. There is no proof that any of these were given to Christians, they may be merely vouchers for the satisfaction of the authorities, like that given to the priestesses of the Crocodile-god. Some of the Sermons, Prayers, Amulets, and Hymns are then described; among them is seen strongly mystical feeling, especially in the Odes, bordering on Persian imagery. Early Christian letters and martyrologies close the division on manuscripts.

The monumental section opens with an outline of the excavations in Palestine of the Hellenistic Age. The Pompeian life is described, and a general account of the Catacombs. What is particularly needed is a recital of all that can be attributed to the first, to the second, and to the third centuries, and the conclusions as to the growth of beliefs and customs which could be drawn from the paintings in each century. The cemeteries of Antinoe and Akhmim are also noticed. Ramsay's results from Phrygia and its early Christianity are well described, and also an outline of the Dalmatian excavations. The great mass of Early Christian stone buildings in Syria are illustrated from the American expedition. The account of the excavations at Ephesus is from Hogarth's great discoveries onward to Roman times, and the results at Athens, Corinth, and Rome are also fully outlined. The Galatian cities also receive notice, beside Tarsus and the Syrian cities.

The conclusion is a summing up on the literary habits, the ways of life, the later Jewish literature, and various matters of interest of the early centuries. To some extent the origin of the work in lectures is apparent in the style, and some tracking back on to previous lines in later parts. A book strictly written as such would be more crystallized. Yet this is what will attract many readers, and prevent one view of a matter shutting out collateral interests. As a whole the work is well organized and clearly expressed; and we have given an outline of it to show what a wide field of information is now available, and how much should be generally known by all those concerned in the history of Christianity.

The Inscriptions of Sinai.—Alan H. Gardiner and T. Eric Peet. Folio, $17\frac{3}{4} \times 13\frac{1}{2}$. Part I. 19 pp, 86 plates. 35*s*. 1917. (Egypt Exploration Fund.)

In 1905 the expedition to Sinai copied all the Egyptian inscriptions that were then remaining, and the plates of them were in preparation. After many were arranged, differences arose between the decisions of the Committee and the orders given for the publication, progress could not be made, and the material was left in the Fund Office. Now after twelve years it appears in the present volume. The interval has given time for Mr. Peet to take up the subject, to search and compare the previous material of squeezes, photographs, and publications, and so to improve in some cases on the full-sized copies made on the spot. A single copyist can hardly make a definitive copy of a much-injured inscription, and the difficulty

of often working in a gale, which would tear paper if left loose, made copying the less certain. The total result is that of the published copies 309 are from the expedition of Prof. Petrie, 29 from squeezes, and about a dozen from photographs and publications. The expedition copies are the sole authority in most cases, but they have been checked by squeezes in 24 instances, by photographs in 62, and by the originals brought to England in 36 instances. This will give an idea of the sources of the present edition. It is unfortunate that no reference has been made to the copyists, to indicate who made the various copies. Their experience differed greatly, two were completely accustomed to such work, one had slight practice, and two knew nothing of hieroglyphs and had never copied before. Though all their copies were checked over, they were yet of varying precision. In one respect the arrangement of the plates is unfortunate. No attempt has been made to keep the copies to the same scale of reduction. This entirely prevents the relative size of the originals being apparent; it destroys the artistic sense of their relation, and confounds delicate work with large work. It is a system which ignores everything but philology. There would have been no difficulty in maintaining a uniform scale, as on Pl. XXXIV some of the largest and smallest inscriptions, side by side on one block, are to one scale. Parts of the same scene are even issued on different scales, as 125 (*a*) and (*b*), see *Researches in Sinai*, Fig. 98. There seems no reason for publishing coarser copies of the plans, which were issued in *Researches in Sinai* in fine outline. Originally published to decimal scales, they are now all irregular. One mis-statement on p. 5 should be noted: "The term 'free-standing stele' has been chosen, for want of a better phrase, in order to indicate the large stelae, usually inscribed on all four sides, that are found in the Approach to the Temple and elsewhere; Prof. Petrie has called these Bethels." This is by no means the case, as can be seen in *Researches in Sinai*, p. 67, where the small shelters on the hill-side are described, and it is suggested that these—with, in some cases, small private steles placed in them—were sleeping places for worshippers. These have nothing to do with the great steles leading into the temple site, inscribed on all sides, which are purely royal. It is unfortunate that Serabít is always mis-spelled Serābīt; no one who has heard the word from the mouths of the natives could lengthen the *a*; it is almost inaudible, as shown by the name being often written as Sarbut. The long *ā* will tend to enforce the common error of speaking of Serābit.

For the first time we have now an almost complete view of the Egyptian inscriptions in Sinai, and we must fully recognize the additional work which Mr. Peet has given to the fitting together of all the different sources of material, as additional to the main stock of the copies of the Fund expedition. Dr. Gardiner's special province remains in the translation of all the inscriptions, which is to appear as Part II.

Scarabs and Cylinders with Names. W. M. FLINDERS PETRIE. 4to. 102 pp., 74 plates. 30*s.* 1917. (British School in Egypt.)

Scarabs have always been a favourite subject for collectors, as being small, interesting, and often beautiful. In these respects, as well as in historic interest and value, they are in Egyptian archaeology what coins are in the Greek and Roman world. The scarabs with names of kings and of private persons are by far the most important, and are the more eagerly collected. The bane of most collections is the profusion made under Tehutmes III, which are to the rest of the series what the Athenian tetradrachm is in Greek coinage, or the Constantine

family in the Roman series. Hence to consider the historic value we must disregard the excess of this reign. Of all other named scarabs the present position is that about a third are at University College and here published, a third are in the British Museum, and a third in other collections. The present catalogue, therefore, gives as large a number as can be anywhere compared together; and as regarding variety, it is by far the most comprehensive, having 240 different royal personages and over 300 private, as against 150 and 100 respectively in the British Museum. There is then here the best opportunity for exact study, and solving the various questions that have arisen in the subject. Beside this the published catalogues of the British Museum and Cairo, and of lesser collections, have been fully used in the text. In order to make the series as complete as possible for reference, beside the 240 royal persons represented, there are drawings of objects of 54 others, only known as unique examples elsewhere. Before the scarabs there is given the series of early cylinders of the pre- and proto-dynastic times, so far as they can be collected from all sources. Of these, 63 are at University College, out of a total of 174. All of the name-scarabs and cylinders at the College are issued here in full-size photograph, in plates facing the detailed transcription and catalogue. The forms of the backs of the scarabs are given in 15 plates of drawings, with the date reference to each. Indexes are given of the names and titles.

From this apparatus some of the results are here discussed. In the first place the frontispiece shows the source of different forms of scarab backs in five different genera, only one of which—*scarabaeus*—has been hitherto recognised. This biological distinction must be the basis of any classification of the forms. The marking of the wing-cases on the backs is found to belong to Upper Egypt, and the smooth backs to the Delta. The purpose with which scarabs were made appears, from various indications and references to them, to be distinctly as amulets; it was only during the Middle Kingdom that they were at all usual as seals, and the conditions in other periods show that such use was not their purpose.

The materials and mode of engraving are detailed. It appears that the point engraving was the earliest, and lasted on hard stones down to the XIVth dynasty; while the wheel engraving begins in the XIth dynasty, and is the sole method in the XVIIIth and later times on hard stones. Of course the soft steatite base for glazed scarabs was cut with the point in all ages.

A favourite assertion of most writers on the subject is that scarabs of various kings were frequently made in subsequent times, leading to the further assertion that no scarabs were made before the XIIth dynasty. This fundamental question is fully discussed here, on a much larger basis than before. Firstly, the adoption of the names of earlier by later kings is demonstrated. The name of Tehutmes III, Men-kheper-ra, was adopted by the Theban ruler of the XXIst dynasty, by Khmeny, and by Nekau I, as shown by independent monuments. These later kings will account for nearly all the Menkheperra scarabs that are later than Tehutmes III. Similarly, the name of User-măot-ra (Ramessu II) was taken by eight kings; and there are eight other royal names which were re-appropriated a second or third time. It is therefore only in very exceptional cases that a king's name was placed on a scarab beyond his immediate reign. This at once removes the supposed ground for post-dating all the early scarabs, and we can only argue back step by step before the XIIth dynasty, as to whether each class found is consistent with an early or a late date. The only material for settling the question is that of the well-dated royal scarabs of the XIIth dynasty and onward. From

these it is seen that fine circular spiral patterns, and hard-stone scarabs engraved, are unknown after the middle of the XIIth dynasty until a few examples appear in the full XVIIIth dynasty. If no such scarabs exist that are dated, it is clear that undated examples cannot be assigned to the XIIIth–XVIIth dynasties. Thus we must assign such undated scarabs to before the XIIth dynasty. In particular, a class of small hard-stone scarabs with roughly-cut names must then be placed about the Xth dynasty. On such is the epithet *Uah-ka-nefer* which agrees with the name Uah-ka of that age, and the names which accompany this epithet belong to the VIth to XIth dynasties on other monuments. Having a secure anchorage in the Xth dynasty or earlier, we see no reason to question the few scarabs which bear names of the VIIth–IXth dynasties, a period so obscure that we cannot suppose anyone copying it later. The IVth–VIth dynasties have scarabs unlike any made in later times. As far back as Sneferu, at the close of the IIIrd dynasty, an inversion of writing is seen on both his scarabs, *S-nefer-r-f*, inverting the supplementary letters of *nefer*. This inversion is found on two contemporary monuments, the tomb of Sneferu-Khof, and a lid in the Cairo Museum, but it never occurs later. The earliest scarab which has signs of being contemporary with a king is that of Neb-ka-ra, at the beginning of the IIIrd dynasty, for the style of it differs from any made after the IVth dynasty. The early date of scarabs back to the IIIrd dynasty seems then to be confirmed by all the evidence.

A very uncertain point hitherto has been the attribution of scarabs with the name User-măot-ra among the nine kings who bore that name. This is pretty well cleared up by collecting the arrangement of the signs on all certain monuments (p. 29), and finding some definite criteria to distinguish the reigns. The late rulers of the Dodecarchy are treated more historically than hitherto; Menkaura has come into his place in the XXVth dynasty, guaranteed by a Book of the Dead written for a son of his.

Proceedings of the Numismatic and Antiquarian Society of Philadelphia. Vol. 27. 1916.

Among several interesting papers here, one on "The Transcontinental Silk Trade at the Christian Era," by Wilfred H. Schoff, touches on Egyptian matters, and is an important study. A map of the routes, and fifty-two figures of the Bactrian gold coinage, add to the value.

The two main routes from China to the Mediterranean were (1) the land route across the Central Asian deserts and Persia to the mouth of the Persian Gulf, thence across Arabia to Petra and Antioch, or down the Persian Gulf and round Arabia, up the Red Sea to Alexandria. The other route was (2) striking off the deserts to Taxila in the Punjab, down to Baroda, and thence by sea up to Alexandria. A variant of this was to embark near Karachi, coast round Arabia, up the Red Sea, and by the Gulf of Akaba to Petra, and so up Syria to Antioch. This was the Nabathaean route. The importance of Koptos, instead of Suez, as the port of Egypt, is due to the north winds in the Red Sea, and the coral reefs which prevent tacking against the wind. In the narrower regions, therefore, shipping was so slow that it was better to land at Berenice, Philotera, Myos Hormos, or one of the other ports, and camel the goods across to the Nile. Hence came the importance of Alexandria rather than Suez or Pelusium.

The principal matters explained in this paper are the commercial relations of the time, which largely involved the trade conditions of Egypt. Silk was known in China by the twenty-seventh century B.C., and had passed into India by the

eleventh century. Probably owing to Alexander's eastern conquests, the Indian goods became known in the West, and silk reached Syria under the Seleucidae. There was still much confusion in Roman times between cotton and silk. The cotton came from trees, and the silkworms were fed on trees, hence, in third-hand accounts, they seemed much alike in origin.

The great development of China in foreign trade was part of the growth shown by their building the great wall to block out the Mongolian hordes and give clear access to Turkestan for the western trade. This was in 200 B.C. probably due to the establishment of the Graeco-Bactrian kingdom in touch with the West. The Mediterranean was still too confused then to give free scope for trade. Not till the firm establishment of the Augustan peace from Britain to Baghdad—or rather Ctesiphon—and the suppression of piracy, was the west ready for the unlimited import of luxuries. Hippalus for the first time revealed the trade monsoon to the West—the easy navigation in opposite directions at different times of the year. Roman shipping grew immensely. Strabo, 26 B.C., says that formerly not twenty ships traded in the Arabian Gulf, but that now a hundred and twenty left Myos Hormos for India (II, v, 12). The trade was, however, one-sided; the Chinese market needed but little from the West, consequently the imported silk had to be paid for in gold. Rome had accumulated great stores of gold by the Greek plunder of Persia and all the earlier civilisations. This overflowed in the rage for gilding in the time of Nero and his "Golden House"; and this gold was the exchange for the imported silk. Much of this wealth was detained by the way in transit dues of the Parthian empire; and it was this wealth, foolishly given up by Rome, that armed the East against the Empire, and so helped its destruction. As much as four million pounds a year was being thus transferred.

Looking next to the eastern side, the terminus of the trade route was at Singanfu, which explains the importance of this place so far inland, and the presence of the Syrian Christian mission there. It is the first place clear of the desert and the mountains, whence roads lead in all directions to the fertile regions and coast of China. The Chinese were by no means content to let everything pass through intermediaries. They despatched one Kan Ying to follow the trade route, and try to open direct trade with the Roman consumer. He succeeded in reaching the Euphrates and tried to go forward from the Persian Gulf. The traders, through whom alone he could gather information, did their best to scare him with stories of tigers and lions by land, and a terrible salt sea which might take two years to cross. Thus the Nabathaean and Egyptian traders succeeded in keeping the business in their own hands.

Not only was the silk trade from China, but the Coans and Syrians learned how to reduce the heavy China silks to thin gauze. This cannot have been by "splitting," as is said; they must have unravelled the stuff, respun the thread very fine, and used it to weave the gauze. This fresh stuff had some return sale to China, not only for its fineness, but from the attraction of its dyes. The importance of the Turkish kingdom of the Tochari was due to their being necessary intermediaries in the land transport; they held the former Greek kingdom of Bactria, and their first great king, Kanishka, is well known by his abundant coinage. His Buddhist council of 58 B.C. started the era still used in India. His gold coinage is very varied, with figures of Mithra, Nana, and other Indian gods, and even of Serapis, showing the strong Alexandrian connection. This coinage is exactly on the standard of the *aurei* of Augustus, and it seems likely that it was struck on the imported *aurei*.

Les Noms de l'Egypte.—G. DARESSY. (*Bull. Inst. Eg.*, 1916, 359.)

This is an account of the names *Aiguptos* and *Miçri*, and an exposure of some recent mistakes in philology. The first name is referred to *Ha-ka-ptah*, the name of Memphis; the second to *çur*, "to press or restrain," *maçur*, "a bounded or fortified place." But if we may grant a confusion of *sad* and *sin*, the Arabic *sur*, "a wall," would give *masur*, "walled," more directly as the fortified land west of the Semites.

L'administration locale sous l'ancien Empire.—A. MORET. (*Comptes Rendus Acad. Inscr.*, 1916, p. 378.)

The official *sar*, plural *saru*, is frequently met with in all ages from the Vth to the XIXth dynasty. The *saru* appear to be independent of the royal service. In the Old Kingdom they met in assembly, *seh*, the *seh* hall being a local court, where they judged suits relating to contracts, and punished delinquents. In the Middle Kingdom the assembly of *saru* was called the *qenbet*, and the members *qenbeti*, or corner men. This, M. Moret says, was because they met in the corner of the royal hall. This would tie them to be mere court functionaries, which seems hardly to have been the case until the Empire. They judged contracts, the division of property, wills and sales. In the Empire there was a "great *qenbet*" in the capitals, and, therefore, lesser *qenbets* locally.

The Koptos decrees show somewhat of the scope of the *saru*. They issued orders, *saru*, different from the royal decrees, *uzu*. These orders had to be countersigned by the Director of the South, and no lesser official, before they were issued as binding on the Nome. The orders of the *saru* were administered by the royal officials. The *saru* settled the corvée for the palace or temples, and the incidence of local taxation. Tenants who became rich rose to be *saru*; they were placed under a *sar* to collect the rents and manage the estate. Maspero sums up that the *saru* were the *mesheykh* of modern Egypt, and were qualified by birth, or alliance, or fortune, or wisdom, or age. They were not nominated by the king.

It would seem then that they must have been co-opted. They represent a primitive form of government of headmen, a parliament of the Nome, which retained its independence, like English town councils, with the right of local assessment of taxes, levied in block by the king. All cases which did not touch the royal rights seem to have been left to their control. This is an interesting view of the relation of central and local government in early ages.

Six nouveaux gisements préhistoriques dans l'Azaouad.—DR. CAPITAN. (*Comptes Rendus Acad. Inscr.*, 1916, p. 445.)

This concerns a region covering about 400 miles north of Timbuktu. The writer agrees that it is only reasonable to assign flints of types known in Europe to the same age as in Europe, as we have done in ANCIENT EGYPT, 1915, pp. 59, 122. He details various stations: (1) Erg Jineïart, 200 or 300 miles north of Timbuktu, with flat, oval and lanceolate haches, like the Upper Chellean; they show a numerous quaternary population in what is now one of the most dangerous regions of shifting sands. (2) Near Taodénit, 400 miles north of Timbuktu, there are small mounds, apparently remains of dwellings, with fragments of pottery and grinding stones, borers, and mortars. The weight of these shows a settled population, and the use of them proves that they were agricultural. (3) At Kollé, west of Timbuktu, near the Senegal river, are many tools made of a black sort of lava called labradorite. (This seems contradictory.) Some are large cylindrical picks,

axes, adzes, as in the upper beds of the Somme, and as at Spiennes; apparently neolithic. (4) A little north of this, at Agamami, are similar tools, but especially large discoid pieces, some of which have most of one face removed by a single big flake; this is like the European Mousterian, and is very usual in Egypt. (5) Bafoulabe, on left bank of Upper Senegal, has a gravel from which have been worked cores and small tools, apparently pigmy flints. Probably late neolithic. (6) Sikasso, same region as last. Polished axes found, some almost cylindrical, others splayed, others short and wide-edged; made of diorite, labradorite, or haematite. They are now considered of magic value. These observations show a wide spread of man in various ages, where now the conditions have greatly changed for the worse. This is to be expected, looking at the great differences of sea-level and climate in the Prehistoric ages.

Excavations at Tell el-Amarna.—L. BORCHARDT. (*Smithsonian Report*, 1916.)

The systematic clearance of the houses of Amarna by the German expedition before the war is here summarised. The ancient, like the modern, Egyptians disregarded occasional floods when choosing sites, and a large number of their houses are found in the valley now covered with six or eight feet of gravel and sand washed down. Even European houses near Cairo are built where a rare storm will wash away the whole house and furniture, and leave only a mud heap. Although the houses were generally enclosed with their gardens in a high boundary wall, as in modern Egypt, yet in one case an outside garden, seen by the public, was provided. The custom of walling up doorways, on leaving a house, was also found to be usual. The largest house cleared was that of the General Rames. In this, the doorways were of stone, and inscribed with the names of Rames and his wife. The walls are preserved to about five feet high, so that the painting of the large hall can be followed. It does not seem that any figure paintings were found, like those of the princesses (Oxford) or in Petrie, *Tell el-Amarna*, V. A resin and mud head of a baboon, and relief of the king and queen, were found, which are supposed to be the modelling material of the artist. The relief, however, has a raised margin to it, which shows that it has been cast from a mould, and the buckled and wavy state of the surface suggests that it was from a repoussée sheet of metal. Certainly there is no trace of a surface such as would be left by modelling upon the resin. Some fine ivory carvings were also found, of the old subject of smiting enemies before a god; but as they are of Tehutmes IV, they have nothing to do with the New Art. Two cuneiform tablets were found, both imperfect. One is a syllabary, the other a composition called "King of the Battle," describing a campaign in Western Asia.

Hellenistic Tapestries in America.—W. SHERWOOD FOX. (*Art and Archaeology*, 1917, 161.)

This is an enthusiastic article on the Roman figure textiles, with 10 illustrations. Though of Roman or Byzantine age, the subjects are rather Hellenistic with Oriental influences. The whole of the purple tints, violet, blue-black, brown-black, or carmine, are due to modifications of madder. The art of these subjects cannot be taken by itself, as Mr. Fox is inclined to do, but must stand as a part of the style of the time in sarcophagi, ivory carving, and illuminations. It is a part of the great question debated by Strzygowsky and the late Jean Maspero, as to the extent of different influences in the later Empire.

NOTES AND NEWS.

WE are favoured with the following remarks by Mr. Somers Clarke, upon the recent paper by Mr. Davies:—

"May it not be possible that Mr. N. de G. Davies has misinterpreted the rough plan shown on p. 23, in Part I, ANCIENT EGYPT, 1917, and has gone wide of the intention of the maker of it? Is it a ground plan?

"Mr. Davies thinks it possible. He claims for it no sort of accuracy; indeed, it is very evident that it is not drawn to scale. To what period does it belong? The quarry, being near the Nile, may have been in use long after the time of Akhenaten.

"What may it be other than a ground plan?

"A study of the blocks of stone forming a temple, either partly in ruins or never completed, makes it very clear that there was a well-arranged system of communication between the temple-builders on the one hand and the quarry-master on the other. From the temple a notice was sent to the quarry stating that blocks approximating to certain dimensions were required.

"Nor was that all. The form of certain stones required was also indicated. Drums, or half-drums, for columns were demanded, or it might be lintels or ceiling slabs, door heads, etc.

"To give an example. We may observe at Karnak, in the Third Pylon, that certain half-drums of columns being in hand, the builder made use of these as walling stones and not as columns.

"In the quarries themselves is evidence that blocks of stone were cut according to order for special purposes. The bulk of the material extracted was in blocks for walling, one stone very similar to the other.

"When we reflect that the greatest number of large blocks of stone made use of in an Egyptian temple were for the columns and roof, it becomes evident that the quarrymaster would be more interested in securing suitable blocks for these purposes than for the walls; but even for the walls stones of some size are needful for doorways, lintels and thresholds.

"May we read the plan in question as indicating a building with brick and not stone walls. The quarrymaster was therefore not interested in these walls. This the drawing seems to indicate.

"The plan of the building, whatever it may be, is certainly not like that of a temple, so far as we know it.

"In the tomb of Huia at Tell el-Amarna, there is, well preserved, a plan of a temple which it is fair to suppose is that of an ideally perfect structure. By making use of the word "ideal," I would not suggest some flight of fancy, but an indication of a temple complete in all the parts, such as might be hoped a finished temple would be. The great entrance pylon, courts, etc., are all shown. The sunrays shine down upon the roof of the sanctuary. Doubtless there were many such in Egypt, though now we find but one left complete—at Edfu.

"In the plan under consideration, the columns in the portico, and certain of those in the more remote part of the building, could not have been joined by architraves, being too far apart. Possibly a timber roof was here employed.

"Can we venture to draw any conclusion as to temple plans until we arrive at the XVIIIth dynasty? The few earlier remains, attached to Pyramids, are in all cases the ruins of funerary temples, as are so many of those of the XVIIIth and XIXth dynasties.

"In the plan under consideration there is no trace of a sanctuary. In undoubted temple plans, big or little, the sanctuary is the kernel of the nut; the shell has often taken centuries to enclose the kernel. Where is the sanctuary on this plan?

"Can Mr. Davies, by indications on the spot, assign any date to the drawing of the plan under consideration?

"It seems safe to affirm that the building represented was not a temple plan of the period of Akhenaten, nor, as I believe, of any later period.

"SOMERS CLARKE."

With the greatest regret we hear of the sudden blow to work in Egypt, by the loss of one of the most active officials. Georges Legrain had done more than anyone to recover and restore the great monuments of Egypt, and every visitor knew of his immense work at Karnak. He had apparently been much hindered and thwarted by opposition and difficulties lately, and had felt it necessary to stay during the summer to care for his work. On Sunday, 19th August, he wrote to a friend: "I can do no more. I have never suffered thus. I must leave. I shall take the train on Thursday evening." Alas! on Wednesday the 22nd he died at Luxor.

An old friend of Egyptology has passed away by the death of Mrs. Grenfell, at Oxford, on August 8th. Her bright and incisive remarks and questions will always be remembered by her friends. She had for years past been most persevering in collecting photographs and copies of scarabs, and her studies on them were published in the *Recueil*, the *Rendiconti* of the *Lincei*, *Ancient Egypt*, and the *Journal of Egyptian Archaeology*. Besides these permanent productions, her labours of collecting material will happily not be lost, as her son, Prof. Grenfell, purposes that they shall be of use for students at University College, London. After a life full of activity in many different interests and ways, and of deep gratification in Prof. Grenfell's great results, rest came to her in a tranquil and painless failure.

The first of our fellow workers of the British School that the war has removed was Lieutenant Thomas B. Butler-Stoney, J.P., at the age of 42. He joined our work at Tell el-Yehudiyeh and other sites, and many of his drawings illustrate "Hyksos and Israelite cities." None have left a more engaging memory, by his conscientious work and his sweetness of character. After that time the duties of a landlord made him carefully study agriculture, and follow home pursuits; but he never lost his interest in Egypt, and we owe to him the lettering of the title on the cover of this Journal. His artistic work is known both by paintings and by book illustration. He entered the army in 1914, the fifth month of war; seriously wounded both last year and again this year, he died from these wounds on 30th September.

The death of the Hon. Jeremiah Lynch claims a place here as one of our well-wishers and Hon. Secretaries, in San Francisco. He had mining experience in America, then lived some time in Cairo, and published a book of *Egyptian Sketches* in 1890. This deals partly with the antiquities, and describes the breaking up of the fallen casing of the Third Pyramid for hotel building. Eight years later he started out for Klondike, with considerable capital and experience. He introduced there steam-thawing for the ground, which is always frozen at four feet down; he made a great success, and then published *Three Years in Klondike*. He had a facility in precise and picturesque description of characters and things. A year before the war he was in Egypt, and bought two decorated mummies, to replace those which were destroyed at his club in the great fire at San Francisco.

A new quarterly periodical is announced, *Sudan Notes and Records*, under the management of Mr. Crowfoot, the Director of Education. His name is a guarantee that the antiquities will not be overlooked among the many subjects of interest in the Sudan. Mr. R. Wedd is the Secretary, to whom the annual subscription of 10*s.* 6*d.* should be sent, at the Lands Department, Khartum.

Mr. Seymour de Ricci is at present interpreter with the British Forces in France. He is also engaged on a bibliography of the works at present of value in Egyptology.

Lieut. Brunton is working seventeen hours a day in directing the Egyptian Labour Corps in France. We hear that, also, the Chinese are much employed in the factories of Marseilles.

The *Egyptian Gazette* gives particulars of the Philadelphia expedition at Memphis, clearing the palace of Merenptah, which was discovered by the British School. The limits of the building are not yet reached, so the plan is not defined. The large court 90 × 150 feet has the bases of columns, but the shafts were gone or overthrown. Two other halls have figures of the gods and scenes, still retaining some colour. The bath room has been found, and some large doorways; but the places had suffered greatly from stone-looters, even the pavements being much destroyed. It does not appear that anything of new historic or artistic importance has been found. As the building is three feet under water at high Nile it is not thought practicable to preserve it, and parts are being removed to museums.

SCOTTISH WOMEN'S HOSPITALS, LONDON UNITS.

AT the outbreak of war, when the attention of all of us was diverted from Egypt, it seemed obvious that one must utilise any large organisation at one's command, for purposes of war relief. It was agreed by the Committee of the British School that I should make a collection of funds from the members of the School, for the benefit of the Officers' Families Fund. During 1915, therefore, I raised over £1,000 in donations from our members, and when Lady Hope resigned from that Society we ceased to collect for it. As I had been specially interested in the beginnings of the Scottish Women's Hospitals (N.U.W.S.S.) in 1914, joined their London Committee, began to raise funds for the London Units, and was elected Hon. Secretary in 1915, the Committee of the British School agreed in 1916 that I might concentrate on collecting funds for these Units. During the past year, I have been sending to members of the School a combined appeal for payment of the annual contribution to Egyptian research, and a donation to the Hospital Units. We issue a list of the donations which have, so far, been received :—

"Seaton Bed": Iron Trades Employers' Insurance Assoc., *per* A. E. Seaton, £75.
Henry Amis, collections made by ... ... £61 19*s*.
Dr. J. J. Acworth, Stewart Margetson ... ... each £10 10*s*.
Miss H. Davies, John Masefield, Mrs. Middleton, Miss Whidborne each £5
H. Gaselee, Mrs. Llewellin, Miss E. Shove, M.B., Miss B. Vickers each £3 3*s*.
Miss E. Andrews, J. F. Chance, C. H. Corbett, Miss Corry, Miss M. Crosfield, Miss Dobson, R. C. Michell, Mrs. Alex. Muirhead, H. Oppenheimer, Mrs. Rawlinson ... ... each £2 2*s*.
H. J. Martin, £2 1*s*. Miss Bellew, Somers Clarke, M. P. Coode each £2
Mrs. Allen, Mrs. Robert Blake, Dr. Estlin Carpenter, Most Hon. the Marquess of Crewe, J. R. Heape, Miss G. Lister, Frank Morey, F. W. Percival, Mrs. Wynne Paynter ... ... each £1 1*s*.
Mrs. Cawthorne, Miss Eckenstein, Miss M. C. Martineau (the late), Miss M. Reddaw ... ... each £1
Rev. G. H. Aitken, Miss E. Austin, Miss H. R. Cowan, Miss H. Farquhar, Miss Miles, Miss E. Mounsey, N. F. Winckworth ... ... each 10*s*.
Miss Adam, 5*s*. 6*d*. Mrs. Alder, Mrs. E. W. Browne ... ... each 5*s*.

It is proposed that the subscribers to ANCIENT EGYPT should be also asked to send a donation to this relief fund, to swell the amount which members of the School are so generously contributing. It is only in the past two months, when an office holiday gave opportunity for application to the task, that I have seriously begun to work up this fund, and £237 6*s*. 6*d*. is the total at present reached.

It is scarcely necessary to say much about the S.W.H., they are so well known after their chequered career in Serbia and half-a-dozen other countries. We are responsible for the maintenance of two Field Hospitals, under Dr. Elsie Inglis, and a Motor Transport Section, attached to the 1st Serbian Division of the Russian army in Rumania. Those who prefer to help our French ally can contribute for the maintenance of the London Ward in the Abbaye de Royaumont. We have to raise £1,000 a month to meet the needs of the London Units.

May I invite donations from any readers of ANCIENT EGYPT? Small sums are gratefully received, and should be sent (crossed London, County and Westminster Bank) to H. Flinders Petrie, Hon. Sec. S.W.H., University College, Gower Street, W.C., 1.

H. FLINDERS PETRIE,
Hon. Secretary.

August, 1917.

STATUE OF NEFER-SMA-ĀA.

BLACK BASALT.

COWPER COLLECTION.

ANCIENT EGYPT.

THE VOICE OF NECESSITY.

"WHAT we have set our hands to the plough to do—to win this war properly—is going to call for every ounce of energy directed into the right channels. . . . The first duty which rests on every man, woman, and child in this country to-day is so to order their lives that they make the least possible demand at all times upon the energy of others. . . . As Minister of National Service I want to say to you here and now that your first duty to the State is to use nothing, to buy nothing, that you can get on without. . . . Think all the time: 'How can I make the least possible call upon the energy of my fellow men?' That is the first duty of us all."—(SIR AUCKLAND GEDDES.)

Such is the unhesitating voice of a man who sees the necessities which have been obvious for some time past, but have not been proclaimed. So long as the flood of printing was unabated in useless channels, it was reasonable to keep up a scientific journal. Now that the true course is to be really enforced on the main outlets of expenditure that is not essential, we must have no hesitation in following the right line for our country's welfare. To continue any journal which does not help the war is treachery to our own cause. Paper, print, and postal work are all needed to be reduced, and our only right course is to pause in the issue of this journal, however desirable it may be to keep up historical interests.

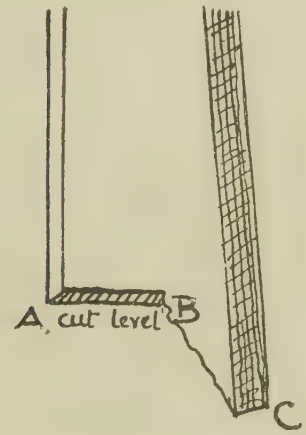
We must therefore suspend the publication of ANCIENT EGYPT for a year; hoping that 1919 may see conditions for its continuance. The summaries of Journals will be resumed from the present point; and we beg contributors to send articles and news, for the issue when resumed. There is no lack of demand by subscribers for such a journal; and the interest from the reserves of the British School would much more than cover the whole cost of it. There is no question, therefore, of its continuance in future, when the present wrecking of the world can be brought to a stop, and the rights of humanity, of good faith, and of treaties are once more enforced by civilisation.

W. M. FLINDERS PETRIE.

STATUE OF NEFER-SMA-ĀA.

(WITH THREE PLATES.)

THE statue, formerly in the Hope Collection and now in the possession of Mr. H. S. Cowper, is of black basalt, and dates to the Saïte period, about 600 B.C. It represents an elderly man, clean shaven and bald, carrying a shrine in which stands the image of a god wearing the double crown. The feet of the statue are broken away, and the fractured part has been cut level to make it stand firmly on the modern pedestal. The feet and the base, on which there was probably an inscription, are therefore lost. The accompanying diagram, drawn by the present owner of the statue, shows exactly how much is missing. From this it appears that none of the inscription at the back has been lost or destroyed; a supposition borne out by the squeeze, which shows a blank space at the bottom of the first line and between the vertical lines below the , a space large enough to contain more than one sign. In the second line enough remains of the enclosing vertical lines to show another blank space at the bottom below .



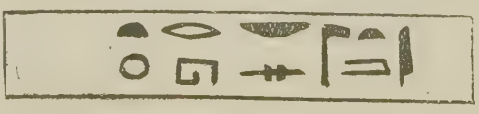
The costume of the figure consists of a long straight garment hanging without a fold from the armpits to the ankles, probably representing a single piece of cloth wrapped round the body, the opening being at the right side in front. Across the chest is a long roll which may possibly be part of the clothing, but may with equal likelihood represent the insignia of an office or an amulet case containing written charms. Covering the left side of the chest is a triangular piece of cloth which may have been fastened to the garment or to something beneath; at the shoulder it appears to be twisted, widens again into a triangular form over the left shoulder-blade, and disappears under the garment at the back; the effect is of a kind of sleeve. Both the roll and the pseudo-sleeve are unusual.

The inscription down the back is in two vertical columns of incised hieroglyphs:—

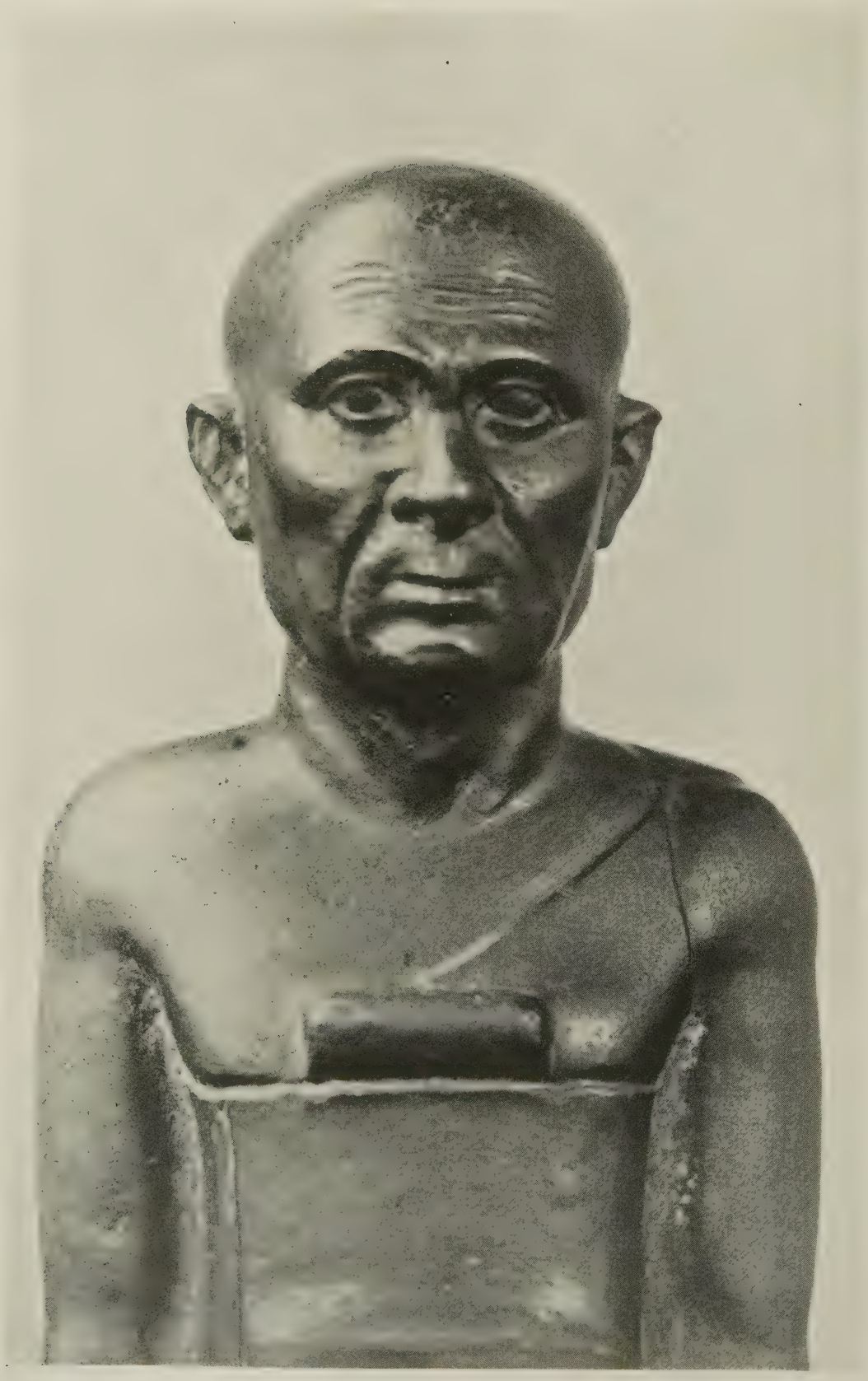
1. "The great one; the worthy one of Thoth, great king of the North[1]; prophet of Khepery;[2] beloved of Min and of Neith of Saïs;[3] prophet of Uazt, lady of Mynt;[4] scribe of the name and accounts of Thoth;[5] scribe of the

2. Five,[6] the guardians of the lake of Great Saïs and Little Saïs;[7] Nefer-sma-āa, son of Ni-Hor-pa-sa-Yst,[8] the name of his mother . . . . . mau,[9] follower of his god,[10] praised of his Nome, strong one of divine offerings."[11]

On the shrine below the figure of the god are the words: "Atmu, lord of Saïs."[12]



INSCRIPTION ON SHRINE.



NEFER-SMA-ĀA.

NEFER-SMA-ĀA.

Notes.

[1] The king of the North. As a title of Thoth this is unusual; the epithet is given to him as Lord of the northern Hermopolis, of which the Egyptian name was , the XVth Nome of Lower Egypt. The figure of the king wearing the Red Crown is uncommon when standing alone; it seldom occurs except in connection with a companion figure wearing the White Crown. The royal crowns are always interesting, the Red Crown particularly so. Their magical powers are often mentioned, and they are clearly looked upon as feminine divinities, for they are represented on the basket-sign which is the token of the primitive goddesses. The inscription of Khenti-em-khast, of the XIIth dynasty (Sharpe, *Inscriptions*, Pl. XXIX), gives a certain amount of information on the subject. His most important title was "Chief of the Secrets of the royal *kheker*," and, from the context, this appears to mean that he was charged with the preparation and custody of the two crowns. The Red Crown was the more dangerously magical of the two, for, in l. 8, Khenti-em-khast is said to be "He whose footsteps are taboo (lit. guarded against) when adorning the Red Crown at the Appearing of Horus, Lord of the Palace." Still earlier, the magical qualities of the Red Crown are even more apparent. Like its fellow, the White Crown, it was *Urt-hekau*, "Great One of magic," in the Pyramid Texts; and it is apostrophised in the Unas text (l. 272), each epithet being determined by the Red Crown on a basket, with the exception of the last, which has the uraeus: "O Neith, O Yny, O Urt, O Urt-hekau, O Flame, grant thou (fem.) that Unas be cut in pieces as thou (fem.) art cut in pieces." Another statement in the Unas text (l. 518) shows that the ancient idea of acquiring magical powers by eating was prevalent at the time: "Unas has devoured the Red Crown, he has swallowed the White Crown."

[2] Khepery. The is here placed before the .

[3] The writing is a variant of the earlier or . The Egyptian appears to have been always liable to lose the value R and to interchange with . Neith of Saïs was one of the most important deities of ancient Egypt; she is a goddess without a consort, yet as early as the Pyramid Texts Sebek is called her son (Unas, l. 627), and as late as the XXVIth dynasty Neith is represented suckling crocodiles. The goddess herself is always represented in human form, but her name may be determined with her emblems, the Red Crown, the shield and arrows, or the so-called shuttle. The quotation from the Unas text, given in Note 1, suggests that at one time the goddess, in the person of her representative, was put to death and dismembered in the fashion generally connected with the cult of Osiris (see Murray, *Man*, XIV, p. 17).

[4] Uazt, or Buto, the goddess of the North. She is here called Lady of Mynt, a place which is identified by Brugsch as "le nom du bas pays du 18e district de la basse Egypte" (*Dict. géog.*, p. 246).

[5] It is not very clear what the ape holds in his hand; possibly the roll of papyrus, a sufficiently appropriate emblem for the god of writing.

[6] The title "Scribe of the Five," is both unusual and interesting. In the Old Kingdom, "Great One of Five of the House of Thoth," is the title of the High-priest of Hermopolis. Like all the High-priesthoods, it is a rare title, considerably more so than that of Memphis, probably because the Old Kingdom cemeteries of Hermopolis have not yet been fully worked and recorded. The Five were clearly the Council of the Temple, of whom the Great One was the Chief. If in this inscription *sau she* is in apposition with The Five, we here obtain a clue to their functions. The Lake of Saïs was, as Herodotus points out, the scene of the passion-play of Osiris, and, consequently, one of the most sacred spots in Egypt. Its peculiar sanctity was due to the fact that the man who represented Osiris was put to death by drowning (Murray, *A.Z.*, 1914, p. 127), the god himself having met his death in the river. A stele of the Persian period gives the place of the drowning of Osiris as in the Delta.

[7] I can find no evidence that Saïs was divided into two, or that there were two towns of the name, but and suggest the translation. *Gba* means, literally, "weak, feeble"; Coptic ϭωϐ.

[8] Mr. Gunn suggests that the name may be read "Sma-taui," not Nefer-sma-āa. Of the father's name Hor-pa-sa-Yst is the more usual form, though Ni-hor-pa-sa-Yst, "He who belongs to Horus, the son of Isis," is probably more correct.

[9] The title (?) and name are obscure. Lion names are always rare.

[10] As so often happens in late writing, the sign , originally *fa*, is used as *f*.

[11] The exact meaning of *nekht en neter hetep* is not clear; neither is the connection clear between the three epithets.

[12] The place-name is spelt , which I take to be an attempt to represent the two-syllabled word Saïs.

We have to thank Mr. Cowper for the photographs and for a squeeze from which the inscription is here drawn.

M. A. Murray.

THE LIBELLUS OR CERTIFICATE OF PAGAN SACRIFICE DEMANDED BY THE EDICT OF DECIUS.

AMONG the wonderful discoveries of ancient literature and records illustrating the life of the Egyptian people in Roman times by means of the papyrus, there is one form of document which throws great light upon a crisis in the history of early Christianity which is not so well known as it should be.

This is one of the most recent results of the recovery of many manuscripts from the sand, and public attention has not yet been attracted to the subject. The following particulars will prove it to be a matter of much interest, and an important addition to our knowledge of the history of the times.

Of all the persecutions endured by the early Christians under the Roman emperors, that suffered under Decius was the most severe, because so universal. The cause of this was that the emperor adopted a new plan for ensuring the return to orthodoxy of all within the empire's frontiers. The duty of seeing that everyone, men, women and children, offered sacrifice to the pagan deities, was placed upon local committees elected by the people themselves in every town and hamlet.

Hitherto the enforcement of laws had been in the hands of the administration and its governors, praefects, and magistrates; but, as with India to-day, the provinces were much understaffed, and the rulers were often placed over too large a population to see that such decrees were strictly carried out. Each of the new local committees had only so many people to supervise as it could properly attend to. The obedience was compelled by requiring every person to be provided with a certificate of due performance, which took the form of an application to the commissioners for them to certify compliance with the special imperial edict issued in the first regnal year of Decius. In order to enable the commissioners to clearly comprehend what the edict demanded, there is no doubt but that the wording of the petition for a certificate of performance was embodied in it. It was practically a request for a written proof of orthodoxy. The application had to be signed by the petitioner unless illiterate, and the fact of due performance was to be attested by the signature of one or more commissioners.

These documents were called "Libelli," and until recently no specimen was known. The number of these libelli now known to scholars and carefully edited is twenty-six. Some of these are only fragments, and not now complete texts. They relate to five different towns: Theadelphia, Alexandria-Nesos, Philadelphia, Arsinoe, and Oxyrhynchus; but of the number ten are from Theadelphia alone. Their formulae are so precisely similar that, should more be forthcoming, it is not probable that variants of value will be disclosed. Doubtless the phrases are cited from the terms of the Edict, and so the differences are quite insignificant.

Some specimens have a few words inserted which are not to be found in any, or at least in the majority, of the others. If it is desired to obtain a most complete text by absorbing therein all the words to be derived from the twenty-six manuscripts, that can be done by presenting the text of one archetype copy and adding to it words there absent but present in other copies—these extra words being

indicated as being so by placing them within brackets. The following text is the result of exhibiting the libellus sentences in this manner :—

"To the commissioners of the village of Alexandrou-Nesos, elected to superintend the (sacred offerings and the) sacrifices. From Aurelius Diogenes, son of Satabos, of the village of Alexandrou-Nesos, aged 72 years, with a scar on his right eyebrow. I have at all times (of my life) offered sacrifices (and libations) (and manifested my piety) to the gods, and now again in accordance with the Edict in your presence I have made sacrifice, and libations, and partaken of the sacred offerings, and I request you to certify this statement. May you prosper. I, Aurelius Diogenes, have presented this application. I, Aurelius Syros, have witnessed your sacrifice. The first year of the Emperor Caesar Gaius Messius Quintus Trajanus Decius, pious and prosperous, Augustus, on the second of the month Epiphi."

Although the actual legal phraseology of the libelli is practically identical, there were variations in the status of the persons concerned, or private matters and fancies, that caused minor diversities in their wording. These can better be set forth by mentioning them severally as additions to or deviations from what may be termed the basic text just given, which is one for a single male person, and the formula of which is probably derived from the phrase of the Edict.

Thus one of the earliest examples found is a certificate for two brothers and their wives. The names of the parents are omitted, but a special addition is made to the name of their city by mentioning that the parties resided near the town gate. Another libellus is of a lady named "Aurelia Ammonous, priestess of Petesouchos and the gods of the Moeris quarter." She, or her amanuensis, does does not mention the city, but states that she lived in the Moeris district, so we know that it was Arsinoe.

Another of these documents from the same city is that of a lady, Aurelia Demos, a name suggesting she was one of the people. She appears to have been illegitimate, for she admits she "had no father," and so gives her mother's name of Helena. She was married to one Aurelius Irenaeus, and he wrote her signature at her request because she was illiterate. In her case the witness to her act of sacrifice was the prytanis of the town. Another libellus is a joint one, for a man, his wife, their son Dioskurus, and their daughter Laïs.

The last libellus yet published, that of Aurelius Gaon, appears to show that he, or he and his wife Taos, sacrificed by proxy for one or more of their children, for it reads: "I have, etc., etc., tasted the offerings with Taos my wife; Ammonius and Ammonianus, my sons, and Thecla, my daughter, acting through me." This reminds one of the statement in the New Testament that if a man believes he shall be saved, and his house. This libellus, which is from Oxyrhynchus, is peculiar in using the words "divine decree," instead of "Edict."

In one of the lot of libelli from Theadelphia, the man's age is appended at the end before the names of the witnesses, and it is mentioned that he was an invalid. This town appears to have had many citizen immigrants from other places, for when stating the persons are certifying at Theadelphia, the texts add that they came (originally) from Apias, Theoxenis, Philagris, and Arabes. One of these documents has a peculiar interpolation, setting forth that its owner "had been a member of the house of Aurelius Appianus, exergetes of Alexandria, who bore many titles." This is a personage well known from other administrative papyrus documents.

It will be noticed that all these people bear the name of Aurelius. This is because, about forty years previously, Aurelius Caracalla bestowed on all the provincials the rights of Roman citizenship, which we know were of such value to St. Paul. These rights, however, did not extend to the *deditícii*, or poll-tax paying class. The edict of citizenship is partly preserved in a papyrus now at Giessen; see *Griechische Papyrien zu Giessen*, I, 40.

The dates of the twenty-six libelli we have range over thirty-two days. There was an old Roman custom which allowed a period of fifty days for compliance with an edict, and this may have been permitted in this case; but Decius appointed each commission to sit permanently until every citizen in its district had complied.

A perusal of the full text of the libellus given above shows that there were three ritual acts demanded to be enacted in order to obtain a certificate of compliance by a signature to the document. These acts were the offering of incense; the libation, which means the pouring of some wine from a cup upon the altar and the drinking of the remaining contents; and the sacramental participation in the sacrifice by consuming a portion thereof.

The last libelli to be edited in this country may be found in Part XII of the "Oxyrhynchus Papyri" and the Catalogue of the Rylands Library Papyri at Manchester.

JOSEPH OFFORD.

THE ALEXANDRIAN COINAGE OF THE EIGHTH YEAR OF GALLIENUS.

1. THE issues of the Alexandrian mint in the eighth year of Gallienus present some difficulties of arrangement, and raise problems of chronology in connexion with the temporary recognition of Macrianus and Quietus in Egypt. A discussion of these points is to be found in the papers by O. Voetter, W. Kubitschek, and K. Regling on the sons of Gallienus in *Num. Zeitschr.*, 1908: but the evidence of hoards throws further light on the questions.

2. In the first place, it is clear that there was a complete break in the scheme of work of the Alexandrian mint at some point in the eighth year. Up to this time, coins were struck with obverse types of the various members of the imperial house and with the same reverse types for all: afterwards, in each year the reverse types of Gallienus and Salonina are distinct. In the earlier period, the obverse types usually, and the reverse types frequently, continued unchanged (except for the dates) from year to year: in the later there was almost every year an alteration in the obverse type of Gallienus, and fresh sets of reverse types were introduced annually, with rare exceptions of the continuance of the same type. There was a change in the obverse legend of Gallienus in year 8, and a very marked variation in the style and workmanship of the coins. This break may be fully seen from a summary description of the issues.

3. The obverse types of the various members of the imperial house up to year 8 are as follows:—

Valerian.—Legend throughout **ΑΚΠΛΙΟΥΑΛΕΡΙΑΝΟCΕΥΕΥC**. Bust r. laureate, wearing cuirass and paludamentum, with variations of position: in year 1, turned to show back (Fig. 1): in years 2, 3, 4, and 5, turned to front, with paludamentum thrown back (Fig. 2): in years 6, 7, and 8, turned to front, with paludamentum fastened across chest (Fig. 3). [I have an anomalous coin of year 7, on which the bust is as in years 2 to 5, and the legend ends —**NOCEVCE** (Fig. 4).]

Gallienus.—Legend in years 1 to 5 **ΑΚΠΛΙΟΥΓΑΛΛΙΗΝΟCΕΥΕΥC**: in the course of the year 5 spelling altered to **ΓΑΛΛΙΑΝΟC** and continued so to year 8. Bust r. laureate, turned to front, wearing cuirass and paludamentum fastened across chest, throughout period (Fig. 5 for earlier, Fig. 6 for later type).

Salonina.—Coins first struck in year 3: type unchanged to year 8. Legend **ΚΟΡΝΗΛΙΑCΑΛΩΝΕΙΝΑCЄΒ**. Bust r. wearing stephane, draped (Fig. 17).

Valerian jr.—Coins in years 4 and 5. Legend **ΠΛΙΚΚΟΡΟΥΑΛΕΡΙΑΝΟC-ΚΑΙCCЄΒ**. Bust r., bareheaded, wearing cuirass and paludamentum fastened across chest (Fig. 21): slightly varied in year 5 (Fig. 22).

Saloninus.—Coins in years 5 to 8. Legend in years 5 and 6 **ΠΟΛΙ-ΚΟΡCΑΟΥΑΛΕΡΙΑΝΟCΚCЄΒ**. Bust r. bareheaded, wearing cuirass and

paludamentum, turned to show back (Fig. 23): in years 7 and 8 legend altered to **CAVAΛ** and bust turned to front with paludamentum fastened across chest (Fig. 24).

4. It will be seen that the changes in obverse types were not frequent, and, as far as the legends were concerned, were of very slight importance, being merely variations in spelling. The legends of Valerian and Gallienus were on the same scheme: and the general impression produced is one of homogeneity. There is a tendency, especially after year 4, in the cases of coins of Valerian and Salonina, and more rarely those of Gallienus, for the legend to be interrupted over the head; but I do not think there is any significance in this fact.

5. The same impression of homogeneity is derived from a study of the reverse types. Those known to me are given in the following list: the letters denote the members of the imperial family for whom the types were used: A.=Valerian, B.=Gallienus, C.=Salonina, D.=Valerian jr., E.=Saloninus:—

Year 1. Head of Zeus r. (A. B.): Elpis advancing l. (A. B.): Homonoia standing l. (A. B.): Nike advancing r. (A. B.): Tyche reclining l. (A. B.): Alexandria standing l. (A. B.): Eagle l., looking back (A. B.).

Year 2. Head of Zeus r. (A.): Bust of Helios r. (A.): Athene seated l. (A. B.): Eirene standing l. (A. B.): Elpis advancing l. (A. B.): Homonoia seated l. (A. B.): Nike standing to front (A.): Bust of Sarapis l. (B.): Eagle to front, wings open (A. B.).

Year 3. Head of Zeus r. (A. B. C.): Athene seated l. (A. B.): Eirene standing l. (A. B. C.): Elpis advancing l. (A. B. C.): Homonoia seated l. (A. B. C.): Nike standing to front (A. B. C.): Bust of Sarapis l. (A. C.); Eagle to front, wings open (A. B. C.).

Year 4. Bust of Helios r. (A. B. C. D.): Homonoia standing l. (A. B. C. D.): Nike advancing r. (A. B. C. D.): Tyche seated l. (A. B. C. D.): Bust of Sarapis l. (A. B. C. D.): Eagle l., looking back (A. B. C. D.).

Year 5. Zeus seated l. (A. C. D.): Nike seated l. (A. B. C. D.): Tyche standing r. (A. B. C. D.): Bust of Sarapis l. (A. C. D.): Alexandria with head of Sarapis (A. B. C. D. E.): Eagle l., looking back (A. B. C. D. E.).

Year 6. Head of Zeus r. (A. B. C. E.): Nike advancing r. (A. B. C. E.): Bust of Sarapis l. (A. B. E.): Alexandria with head of Sarapis (A. B. C. E.): Eagle l., looking back (A. B. C. E.).

Year 7. Head of Zeus r. (A. B. C. E.): Athene seated l. (A. B. C. E.): Nike advancing r. (A. B. C. E.): Bust of Sarapis l. (E.): Busts of Sarapis and Isis jugate l. (E.): Alexandria with head of Sarapis (A. B. C. E.): Eagle l., looking back (A. B. C. E.).

Year 8. Bust of Helios r. (A. E.): Homonoia standing l. (A.): Nike standing to front (E): Eagle l. wings open (A. B. C. E.).

6. It is evident that up to year 8 the reverse types were used in common for all those in whose names coins were being issued at any time: there are a few cases where a type does not occur for all alike, but the gaps could probably be filled by a further search in collections: the chief of these gaps are in years 2 and 8, in which years the issues were comparatively small (see § 12). Further, the same reverse types were often continued from year to year: this is notably the case in years 2 and 3, and 6 and 7.

7. At some point in year 8 a fresh style of obverse legend was adopted in the case of Gallienus, and continued to the end of his reign, in the form ΑΥΤΚΠΛΙΚΓΑΛΛΙΗΝΟCCЄΒ. The marked contrast between the practice of the mint in the period before year 8, and that in the period after, has been mentioned above (§ 2): it will be set forth in more detail in the following paragraphs.

8. The obverse type of Gallienus, instead of remaining practically unchanged as it had done in the earlier period, was varied almost annually in respect of the position and draping of the bust; the changes are:—

Years 8–9. Bust in front view: paludamentum thown back to show cuirass (Figs. 7, 8, 9).

Year 10. Bust in front view: paludamentum fastened over chest (Figs. 10, 11).

Year 11. Bust in back view (Fig. 12).

Year 12. Bust in front view: paludamentum thrown back (Fig. 13).

Year 13. Bust in back view (Fig. 14).

Year 14. Bust in front view: paludamentum thrown back (Fig. 15).

Year 15. (*a*) As year 14.

(*b*) Bust in front view: paludamentum fastened across chest (Fig. 16).

The obverse type of Salonina is less varied: the issues for her do not recommence after year 8 till year 11, and the type can be described in the same terms as that of year 3: but the treatment of the portrait is very distinct in the later period, and shows changes from time to time: the bust is always more spread than in years 3–8, especially in years 11 and 12 (Fig. 18): in year 13 a neater and more compact bust is found, and continues with slight modification to the end of the reign (Figs. 19, 20).

9. As regards the reverse types, in contrast to the homogeneity before year 8, there are only two instances after the resumption of the coinage for Salonina of the same reverse type being used in any year both for her and her husband, both of these instances being in year 11. Further, after year 9 it hardly ever occurs that the same reverse type is used in two successive years: there are exceptions in the early part of year 15, when the change in the reverse types, as in the obverse type, does not seem to have been made till some time after the beginning of the Alexandrian year. But, generally, the mint officials seem to have been careful to select a distinct set of types each year. A list of the types is given below.

10. There may be taken in conjunction with the foregoing considerations the fact that the fabric of the coins after year 8 differs rather markedly from that of the earlier issues: the flans are distinctly thinner and more spread. The execution of the dies, too, shows a change, especially in the treatment of the portraits on the obverse and in the lettering.

11. From the internal evidence of the coins, then, there seems to be reason to conclude that there was a break in the issues of Gallienus during his year 8. It follows that the coins of Gallienus of his years 8 and 9 should be examined more closely, to see how they can be fitted in with the facts ascertainable as to the interruption of his recognition in Egypt caused through the usurpation of power by Macrianus and Quietus.

12. Before proceeding further, however, it will be useful to set forth some data as to the relative sizes of the issues for the different members of the imperial house

up to and including year 8. The subjoined figures show the number of coins found in five hoards covering the period which I have examined :—

Year	1	2	3	4	5	6	7	8
Valerian	48	10	302	331	166	94	198	2
Gallienus	10	6	65	72	52	26	32	31
Salonina	—	—	7	52	29	13	43	3
Valerian jr.	—	—	—	53	16	—	—	—
Saloninus	—	—	—	—	1	5	42	—

From these figures it appears that up to year 8 the issues for Gallienus were on an average about a quarter of those for Valerian. The comparatively small number of coins of Salonina belonging to year 3 suggests that it was not until late in that year that the mint began to strike for her : after this year her coins are usually rather fewer than those of Gallienus, but in year 7 the proportions are reversed. The issues for Valerian jr. and Saloninus are on the whole rather less than those for their mother.

13. In year 8, however, the coins of Gallienus appear in far greater numbers than those of the others. But the 31 specimens included in the table are all of the later obverse type described in § 8 : there is not amongst them a single example with the earlier type described in § 3. As a matter of fact, coins of Gallienus of year 8 with the earlier obverse type are distinctly rare : I have only seen one specimen. When the Alexandrian mint was striking concurrently for two or more members of the imperial house it normally kept the same proportions of issue for each from year to year, though there are occasional exceptions, as in the cases of Gallienus and Salonina in year 7 : and it is improbable that, if the mint proceeded on the same lines at the beginning of year 8, when Valerian was still recognised, as it had done in the preceding seven years, hoards would contain more coins of Gallienus than of Valerian. It is much more likely that the coins of Gallienus of year 8 with the later obverse type belong to a period in the year when the mint was striking for Gallienus alone, as it did in years 9 and 10.

14. The reverse types used for coins of Gallienus of year 8 are, with the earlier obverse, only Eagle l., wings open : with the later, Head of Zeus r. ; Athene seated l. ; Nike standing to front ; Bust of Sarapis l. ; and Eagle l., wings open. Of these, the eagle type, which is found with both obverses, occurs on coins of Valerian, Salonina, and Saloninus of the same year : the Nike type is shared by Saloninus : the other three are, so far as I know, peculiar to Gallienus in this year, though all had been employed before in this reign, and recur on coins of year 9.

15. The issues of year 9 are more complicated. The date on the reverse appears in three forms—**L Θ**, **L HA**, and **L ЄNATOV**. The last of these three is much the commonest : four hoards show 200 specimens, as against 1 of **L Θ** and 2 of **L HA**. It is the usual method of expressing the date "year 9" on Alexandrian coins : the employment of **Θ** as a numeral was often avoided, apparently on superstitious grounds, and **HA** is of course an anomalous form. The relationship of the three series requires some examination.

16. The published reverse types used in the three groups are :—

LΘ. Athene seated l. (F. 3058) : Asklepios standing l. (B.M. 2174, D. 5227) : Dikaiosyne standing l. (B.M. 2175) : Elpis advancing l. (B.M. 2181) : Homonoia standing l. (D. 5241) : Nike advancing r. (F. 3057) : Tyche standing l. (F. 3054) : Tyche seated l. (F. 3055) : jugate busts of Sarapis and Isis r. (D. 5263) : Canopus r. (B.M. 2214, D. 5333, 5334) : Alexandria with bust of Sarapis (D. 5225) : Eagle r.,

looking back (F. 3060): Eagle l., looking back (B.M. 2223, D. 5278): Eagle l., wings open, looking back (B.M. 2224): Eagle l., wings open (B.M. 2233).

LHA. Head of Zeus r. (D. 5270): Nike standing to front (D. 5251): Eagle l., palm across (D. 5287).

LЄNATOV. Head of Zeus r. (B.M. 2153, D. 5271): Athene seated l. (B.M. 2169, D. 5230): Nike standing to front (B.M. 2191, D. 5252): Bust of Sarapis l. (B.M. 2208, D. 5260): Eagle l., palm across (B.M. 2235, D. 5286): trophy with bound captives at foot (B.M. 2239, D. 5274).

[The references given are to the British Museum Catalogue (B.M.) and Dattari's *Numi Impp. Alexandrini* (D.), with a few types in Feuardent's catalogue of the Demetrio collection (F.) which are not in the other two.]

The obverse types are as described above (§ 8): those of the **LHA** and **LЄNATOV** series are practically indistinguishable (Fig. 9): those of the **LΘ** series, however, have a slight difference from the others as a rule in showing more of the paludamentum on the shoulder of the bust, and are noticeably worse in execution (Fig. 8).

17. It is clear that the **LHA** and **LЄNATOV** series are closely related: in addition to the similarity of the obverse type, the three reverses found with **LHA** all occur also with **LЄNATOV**. Moreover, these two series appear to carry on from the coins of year 8 with the later obverse type: of the five reverse types of that series (see § 14), four are repeated in the **LЄNATOV** group and two in the **LHA** one: the remaining type of year 8, the eagle l. with wings open, which is the only one found also with the earlier obverse type of Gallienus of this year, is replaced in the course of year 9 by a variant position. On the other hand, amongst the numerous reverse types of the **LΘ** coins—remarkably numerous considering the rarity of individual specimens—only Athene and the eagle with open wings are common to coins of Gallienus of year 8, and only Athene to those of the **LЄNATOV** group: they also differ in respect of style from the **LHA** and **LЄNATOV** coins, the workmanship being inferior both on the obverses, as noted above, and on the reverses. In this point of style the **LΘ** coins approach closely to some of the coins of year 10, in which year there are two groups.

18. These two groups are broadly distinguished by the presence or absence of a palm on the reverse, the types being:—

Group A. Homonoia standing l. (D. 5242): Nike advancing r. (D. 5255): Tyche standing l. (D. 5266): Bust of Isis r. (B.M. 2212): Eagle l., looking back (B.M. 2225, D. 5279).

Group B. Homonoia standing l., palm to l. (B.M. 2183, D. 5243): Nike advancing r., palm to l. (D. 5256): Eagle l., looking back, palm to l. (B.M. 2226, D. 5280): Wreath enclosing legend **ΔЄKA | ЄTHPI | CKV | PIOV** (B.M. 2240, D. 5273).

The workmanship of group A. is poor, like that of the **LΘ** coins (Fig. 10): that of group B. is much better (Fig. 11). The last type on the list given is placed under group B. on account of its style, although there is no palm in the field.

19. So far as the internal evidence shows, the succession of the series in years 8, 9, and 10 would seem to be as follows. The issues of year 8 with the later obverse type of Gallienus are continued in year 9 by the **LHA** and **LЄNATOV** groups: the former was only a small issue, and the abnormal form of the date may have been due to a desire on the part of the mint officials to use up old dies with **L H**: this would apply at any rate to the Zeus and Nike types, and the examples

of the Zeus type which I have seen look as if the A were a later addition to the die: it would not however hold in the case of the eagle type, which is not found with the date LH: but some specimens of this type clearly have HA cut over Θ (Fig. 30); and perhaps the engravers, who had begun year 9 by using dies of LH altered to LHA, brought in a fresh type and dated it LΘ: then, their attention being called to the superstitious objection to this form of date, they amended it in the simplest way open to them by falling back on the anomalous LHA: but in succeeding issues they avoided the difficulty by writing LЄNATOV. The LΘ group stands quite apart, both in style and types: and it would seem reasonable to regard it as the output of a different mint from the LHA and LЄNATOV coins. It is true that there is no evidence to prove that there was ever any other mint than that of Alexandria in Egypt during the Roman period: but the disturbed state of the country in the eighth and ninth years of Gallienus may have caused exceptional arrangements. Group A. of year 10 would appear to belong to the same mint: but it is connected in types with Group B., which doubtless began when Gallienus entered upon his tenth regnal year, two or three months after the commencement of his tenth Alexandrian year: the addition of the palm to the reverse types was a recognised method of marking that an emperor had reached the tenth year of his reign.

20. The coins of Macrianus and Quietus, during their recognition in Egypt, break the series of Gallienus. They are all dated in year 1 (the coin in the British Museum, published as of year 2 of the elder Macrianus, is, as pointed out by Laffranchi [*Riv. Ital. Numism.*, 1907, 381] a tooled coin of Gallienus) and are of the following types, which occur for both princes:—

Homonoia standing l.: Nike standing to front: Eagle l., wings open.

These reverse types are found with obverses of Valerian, Gallienus (earlier type) or Saloninus of year 8: and the two latter also occur on coins of Gallienus with the later obverse type of year 8 and continue into year 9. So far as the reverse types are concerned, therefore, the mint officials seem merely to have transferred to Macrianus and Quietus some of the types which they had in use already, with the necessary alteration of date: and the coins of Macrianus and Quietus would appear to come naturally after those of Valerian and his family, and before those of Gallienus of the later obverse type of year 8. The style of the coins (Figs. 45, 46 of Macrianus and Figs. 47, 48 of Quietus) is distinctly that of the earlier, not of the later, issues of year 8 of Gallienus.

21. This arrangement, however, does not quite suit some of the evidence from papyri as to the period of recognition of Macrianus and Quietus in Egypt. The series of dates in P. Strasb. 6–8 gives these two emperors as recognised on 4 Phaophi, *i.e.*, 1st October, 260, only just a month after the eighth Alexandrian year of Gallienus had begun, and has another date of 3 Hathyr in their second year (30th October, 261), the first reappearance of Gallienus being on 4 Pharmouthi of his year 9 (30th March, 262). For the writer of this papyrus, therefore, Gallienus disappeared for over a year, and the only part of his eighth year in which he would be recognised in Egypt was the first month. But the dates in P. Strasb. 6–8 are distinctly confused, and perhaps hardly a safe guide: the recognition of Macrianus and Quietus in Phaophi of their first year is confirmed by P. Oxy. 1476, dated 2 Phaophi, and G.G.P., i, 50, dated 27 Phaophi: (the still earlier date of Thoth 1 of the first year in P. Flor. 273 is probably a later entry): but there is no other example besides P. Strasb. 6–8 of a date in the second year of the two

emperors, and a Theban ostracon (Wilcken, G.O. 1474) is dated 30 Mecheir in the eighth year of Valerian and Gallienus, which suggests that in the spring of 261 Macrianus and Quietus were not recognised at Thebes.

22. If the dates of P. Strasb. 6–8 are to be accepted, an explanation of the apparent discrepancies may be suggested. The evidence of the coins points to a small issue of Valerian and his family early in year 8, and a more extensive issue for Gallienus alone later in the same year, with series of Macrianus and Quietus between. Alexandria and its mint may have been lost by Gallienus by the beginning of October, 260, but recovered a few months later, before his ninth Alexandrian year commenced on 29th August, 261; the Fayum (from which P. Strasb. 6–8 comes) may have still been held for Macrianus and Quietus till the autumn of 261: while the Thebaid may either never have been conquered by the usurpers, or may have reverted to the legitimate emperor at an earlier date: and in this case the LΘ series of Gallienus may have been struck in the Thebaid, while regular communication with Alexandria was interrupted by the forces of Macrianus and Quietus in Middle Egypt. As these two emperors controlled Egypt from Syria, it would be quite natural that their strongest hold should be in the eastern side of the Delta and Middle Egypt.

23. The later issues of Gallienus and Salonina after year 10 can be more summarily treated. In year 11 there are a few coins of Gallienus with the same obverse type as that of year 10, and a palm in the field of the reverse, as in group B. of that year: the reverse types found are Homonoia standing l., Sarapis standing l., and eagle l., looking back. But far the greater proportion of the coins of this year show a new obverse type, with the emperor's bust in back view; and on the reverse of these coins the palm does not appear. Presumably this is the later group, and the palm may have been dropped after the end of the tenth regnal year: the renewal of the issues for Salonina may have been contemporaneous with the adoption of the new obverse for Gallienus, as the coins of Salonina of year 11 do not bear the palm on the reverse. The types of this group are: for Gallienus, Bust of Zeus r.: Bust of Helios r.: Ares standing before trophy: Homonoia seated l.: Tyche standing l.: Tyche reclining l.: Sarapis standing between Nike and the emperor: Eagle r., wings open; for Salonina, Dikaiosyne seated l.: Homonoia seated l.: Tyche reclining l.

24. In year 12 the palm reappears on the reverses of all coins, both of Gallienus and Salonina, and henceforward is regularly used till the end of the reign, except where a palm forms part of the main reverse type, as for instance with figures of Nike holding a palm branch. The obverse type of Gallienus is varied, the bust being shown in front view, with the paludamentum thrown back so as to expose the cuirass on the emperor's chest: that of Salonina is practically unaltered from the type of year 11. The reverse types are;—for Gallienus, Athene standing to front: Homonoia seated l.: Tyche seated l.: Eagle to front, with wreath on outspread wings; for Salonina, Athene seated l.: Eirene standing l.: Elpis standing l. As noted above (§ 9) after year 11 the reverse types used for Gallienus and Salonina are always distinct: in year 12, as not uncommonly occurred at Alexandria, an increase in the total output of the mint was accompanied by a diminution in the number of distinct reverse types employed.

25. The obverse type of Gallienus changed back in year 13 to the later one of year 11, in regard to the position of the bust; that of Salonina was altered somewhat in details of treatment, and executed in better style. The reverse types are still few in number:—Eirene standing l.: Homonoia standing l.: Nike standing to

front: Eagle r., palm across, for Gallienus; Dikaiosyne standing l.: Nike advancing r.: Sarapis seated l.: Eagle l., looking back, for Salonina.

26. Another change in the position of the bust on the obverse of coins of Gallienus was made in year 14, reverting to the scheme of year 12: the portrait of Salonina is hardly varied from that of year 13. The reverse types found are:—for Gallienus, Bust of Helios r.; Bust of Selene r.; Athene seated l., with shield by throne; Homonoia standing l.; Nike advancing r.; Bust of Sarapis r.; Eagle l., looking back: for Salonina, Elpis standing l.; Tyche standing l.; Tyche reclining l.; Bust of Isis r.; Eagle l., wings open.

27. The issues of year 15 began with the same obverse types as those of the preceding year, but in the course of the year the type of Gallienus was changed: the bust is still in front view, but with the paludamentum fastened across the chest. There is no definite alteration in the type of Salonina. The reverse types of Gallienus in this year with the earlier obverse are Poseidon standing l.; Bust of Helios r.; Bust of Selene r.; Athene seated l. on cuirass; Hermes standing l.; Two Nikae to front, holding shield; Bust of Sarapis r.; Horus standing l., with child before him; Eagle r., looking back. Half of these types are, like the obverse, continued from year 14. With the later obverse a fresh set of reverse types come in:—Nike advancing l.; Canopus r.; Eagle l., looking back; Agathodaemon r. The reverse types of Salonina are Dikaiosyne standing l.; Elpis standing l.; Tyche standing l.; Sarapis seated l.; Bust of Isis l.; Bust of Nilus and Euthenia jugate r.; Alexandria standing l.; Eagle r., wings open; Eagle l., palm across. As in the case of Gallienus, some of these reverse types are continued from year 14: and probably others were introduced at the same time that the change in the types of Gallienus took place: but it is not possible, on the evidence at present obtainable, to say which are the later types.

28. It is worth noting that there is a very marked improvement in the design and execution of the coins of the last two years. Until year 8 there is a dead level of mediocrity in the work of the mint, which had been degenerating steadily since the reign of Severus Alexander: the portraiture is uncertain, the types, as already mentioned, monotonous, and the legends often blundered. Thus of year 1 I have a coin of Valerian (Homonoia rev.) with legend—ΟΥΑΛΕΡΑΝΟC—, and one of Gallienus (Alexandria rev.) with —ΠΛΟΥΓΑΛΛ—: of year 3 coins of Valerian (Eirene, Elpis, and eagle revv., all from same obv. die) with —ΟΥΑΛΕΡΑΝΟC—: of year 4 two (Homonoia and Nike revv., same obv. die) with —ΟΥΑΛΕΡΙΑΝC—, and two (Homonoia and eagle revv., same obv. die) with —VOΑΛΕΡΙΑΝΟC—: of year 5 one (Alexandria rev.) with —ΠΛΟΥΑΛ—: of year 7 one (eagle rev.) with the same mistake, and coins of Saloninus with ΠΟΙΚΟΡ— (Alexandria rev.), —ΟΥΑΛΕΡΑΝΟC— (Alexandria rev.), and —ΝΟΕΚCΕΒ (Zeus, Nike, Sarapis, Alexandria, and eagle revv.). After year 8 there do not seem to be any more blundered legends, and some of the issues show better work, though side by side with them there are very poor examples (see § 17). From year 12 onwards the improvement in style is consistent, and by year 14 the mint had reached a higher artistic level than had been known for many years: in the next year the authorities evidently determined to abandon the old monotonous rotation of reverse types, and, besides reviving some which had been unused for a century (Canopus and Agathodaemon), and in addition modifying the attributes of such revivals (Poseidon and Hermes), they introduced two entirely novel types—the two Nikae holding a shield and Horus with a child.

29. The following table gives the numbers of coins of Gallienus and Salonina from year 9 onwards in four hoards (one of those used for the table of the earlier years having been completed about year 12 is excluded):—

		Gallienus.	Salonina.
Year 9	LΘ	1	—
	LHA	2	—
	LENATOV	200	—
„ 10	without palm	3	—
	with „	115	—
11	„ „	1	—
	without „	146	67
„ 12		191	180
„ 13		307	284
„ 14		396	528
„ 15	earlier type	464	322
	later „	103	

NOTE.—A document published in Vol. XII of the Oxyrhynchus Papyri (No. 1411) contains a proclamation of some interest in connexion with the coinage of this period. It is an order by a strategus, who is known from other evidence to have held office during the rule of Macrianus and Quietus, directing the money-changers to accept and exchange "the sacred coin of the emperors," which they were accused of having refused to take. The date of the order is unfortunately uncertain, owing to the breakage of the papyrus: but it is probably 28 Hathyr in the first year, *i.e.*, 24th November, 260, less than two months after the earliest certain date of the two emperors. The reason for the unwillingness of the money-changers to accept this coinage is a matter for conjecture: the most probable explanation would seem to be that they were doubtful of the right of Macrianus and Quietus to issue coins: and if, as suggested above, some part of Egypt was still held for Gallienus, they would have some justification in desiring to suspend what might be taken as a recognition of the usurpers. The mere fact that new effigies and titles appeared on the coins would hardly have troubled them, if they had been assured of the due authority of the new emperors: in the fifteen years before 260 there had been fifteen emperors, empresses, or Caesars represented on Alexandrian coins. The standard of the issues of Macrianus and Quietus also was not noticeably varied from that of their immediate predecessors: so the changers would not have feared loss on depreciation. On the whole, the political motive seems the best explanation of this proclamation.

DESCRIPTION OF PLATES.

The first Plate has been arranged to show the obverse types of Valerian (1–4), Gallienus (5–16), Salonina (17–20), Valerian junior (21, 22), and Saloninus (23, 24), in the succession explained above.

The second Plate is intended to illustrate the variations in style of the reverse types of Gallienus: of the coins figured, 25–28 are examples of the ordinary types before year 8: 29–32 belong to the transitional period of years 9 and 10: and 33–40 show the improvement of the last five years of the reign, especially 37–40, which are all of year 15: to these are added, in 41–44 four reverses of coins of Salonina of year 14, to give further evidence of the artistic merit of the year. For

ALEXANDRIAN COINS OF GALLIENUS AND FAMILY

ALEXANDRIAN COINS OF GALLIENUS AND FAMILY.

purposes of comparison with the series of Gallienus, 45 and 46 supply obverse and reverse types of Macrianus, and 47 and 48 of Quietus.

The illustrations are from coins in my collection.

J. G. Milne.

List of Illustrations.

(Obverse types.)

		Year.
1.	Valerian	1.
2.	,,	2–5.
3.	,,	6–8.
4.	,,	7 (abnormal).
5.	Gallienus	1–5.
6.	,,	5–8.
7.	,,	8 (later type).
8.	,,	9 (date Θ).
9.	,,	9 (date ЄNATOV).
10.	,,	10 (group A.).
11.	,,	10 (group B.).
12.	,,	11.
13.	,,	12.
14.	,,	13.
15.	,,	14–15.
16.	,,	15 (later type).
17.	Salonina	3–8.
18.	,,	11–12.
19.	,,	13.
20.	,,	14–15.
21.	Valerian jr.	4.
22.	,,	5.
23.	Saloninus	5–6.
24.	,,	7–8.

(Reverse types.)

			Year.
25.	(Gallienus)	Elpis standing l.	1.
26.	,,	Head of Zeus r.	3.
27.	,,	Homonoia standing l.	4.
28.	,,	Nike advancing r.	6.
29.	,,	Eagle l., looking back	9 (Θ).
30.	,,	Eagle l., palm across	9 (HA).
31.	,,	Bust of Sarapis l.	9 (ЄNATOV).
32.	,,	Nike advancing r.	10 (group B.).
33.	,,	Eagle r., wings open	11.
34.	,,	Athene standing	12.
35.	,,	Eirene standing l.	13.
36.	,,	Nike advancing r.	14.
37.	,,	Poseidon standing l.	15.
38.	,,	Bust of Selene r.	15.
39.	,,	Athene seated l. on cuirass	15.
40.	,,	Horus and child	15.
41.	(Salonina)	Elpis standing l.	14.
42.	,,	Tyche reclining l.	14.
43.	,,	Bust of Isis r.	14.
44.	,,	Eagle l., wings open	14.
45.	(Macrianus)	Obverse type	1.
46.	,,	Homonoia standing l.	1.
47.	(Quietus)	Obverse type	1.
48.	,,	Eagle l., wings open.	1.

EARLY HIEROGLYPHIC READINGS OF SIR WILLIAM GELL.

THE following documents were presented by the late Miss Sharpe, of Highbury, to the Edwards Library, University College, London, and they are here published at the suggestion of Prof. Breasted. As one document dates from 1st January, 1822, it is of some importance as showing the state of the subject before the influence of Champollion. Other letters of various students to Gell that have appeared in the *Journal of Egyptian Archaeology* are of 1826–1829, and therefore after Champollion's work was known.

The first document is on a four-page sheet of note paper, 8 inches by 5 inches. The page 1 blank, page 2 on Rosetta Stone, page 3 cartouches, page 4 the end of a letter of Sir William Gell to "Dear Barone." The only Baron about in that company seems to have been Baron Uxkhull, who was interested in translation (*J.E.A.*, 1915, p. 83), and later accompanied Champollion (*J.E.A.*, p. 84). That this portion of a letter accompanies Document 2, which has scribbled notes by Gell, rather suggests that it was held back by him and never sent. The sheet is now split down the fold, but the watermark shows the original union.

On page 2 Gell makes a bold attempt to equate two lines of the Rosetta Stone. He evidently split up the text by guess, without knowing the values of most of the signs, and much of the rendering is wrong; but he could read the whole cartouche of Ptolemy safely. On page 3 Gell gives two dozen cartouches, mostly wrong; the first two are obtained from the obelisk. Of the rest Memnon, Amenses and Ptolemy are about all that will pass muster.

On page 4 Gell is entreating the Baron to get material in Rome and send it on to Naples for study. These attempts show how very far Gell was from any real grasp of the subject.

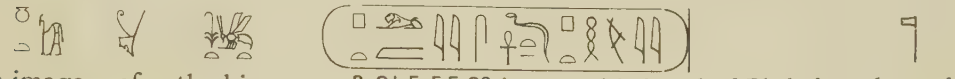
For the sake of clearness each page of original manuscript is here given as a separate page of print, quoted entire without any additions on pp. 163–5.

[Page 2] *End of the Rosetta Stone.* (Line 14.)

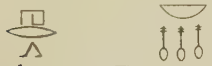
to prepare a pillar of hard stone with wrought letters proper for the gods of

the country lastly . . . Greek. The priesthood declare it in order to set it up

in temples of all kinds in Egypt in all first second third wheresoever wrought

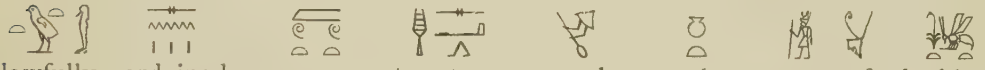


the image of the king immortal beloved of Phthah the god

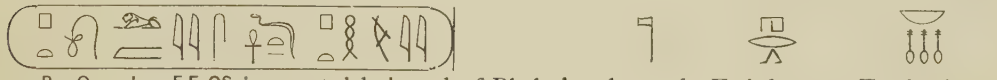


Epiphanes Eucharistes.

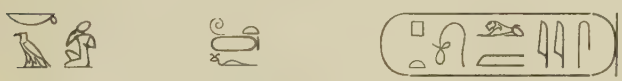
(Line 6.)



lawfully ordained moreover to set up wrought another statue of the king



immortal beloved of Phthah the god Epiphanes Eucharistes



called by the name immortal

No. 1. *End of the Rosetta inscription.*

"This decree shall be inscribed on a prepared column of hard stone, in the sacred, the vernacular, and in the Greek character, and be placed in each temple both of the first, second and third (gods) wherever the wrought image of the king Ptolomy the immortal, beloved of Phthah the god Epiphanus Eucharistes . . . ."

"ΣΤΕΡΕΟΥ ΛΙΘΟΥ ΤΟΙΣ ΤΕ ΙΕΡΟΙΣ ΚΑΙ ΕΓΧΩΡΙΟΙΣ ΚΑΙ ΕΛΛΗΝΙΚΟΙΣ ΓΡΑΜΜΑΣΙΝ ΚΑΙ ΣΤΗΣΑΙ ΕΝ ΕΚΑΣΤΩ ΤΩΝ ΤΕ ΠΡΩΤΩΝ ΚΑΙ ΔΕΥΤΕΡΩΝ . . . ." *caetera desunt.*

No. 2.

"It is, moreover, lawfully ordained that another wrought statue of the king Ptolomaios the immortal the beloved of Pthah the god Epiphanes Eucharistes shall be set up, and called by the immortal name of Ptolomaios."

Specimens of the Trilinguar inscription of Rosetta which has served as the dictionary of Hieroglyphics. It is published by the A.S.S. of London, and an impression in plaster was sent to Rome, where it is probably carefully hidden from antiquaries in the most secret of prisons—a public library.

[Page 3]

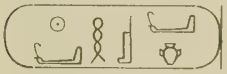
Thuthmosis.

Thoth beginning of name.

Mesphres.

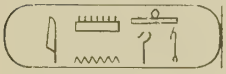
Mesh = Scarab.
Ph'res = The Sun.

Misphragmuthosis.



muth
= Isis.

Tithous.

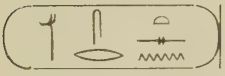


Eoa.

Memnon.

Amenses.

Heron.

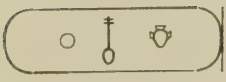


Ramesses.

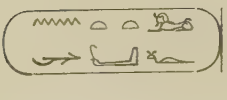
Re = The Sun.
Mesh = offspring, of which the scarab is the symbol.
Shesh = a pair, or Remeshesh.

Sesostris.

Pheron.



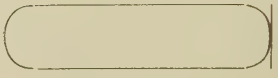
Proteus.



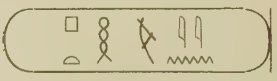
Amarnuphthes.

Anysis.

Psammeticus.



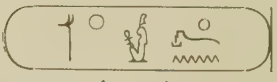
Philometer.



Nechao.

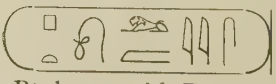
Psammis.

Maenuphtes.

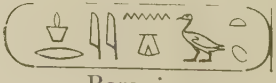


Amasis.

Arsinoe.



Ptolomy, vid. Rosetta.



Berenice.

[Page 4]

In the Rosetta inscription the Greeks are called not Ellenes but Ionians, thus OUEEININ = OU, = EE, = a serpent, or ENEH, N.

Arsinoe is probably made out of , arshin = a lentil.

I wish you could go into some cellar or to the foundation of some house near San Lorenzo, in Lucina, and get the names upon the obelisc, of which I am in great want—the obelisc of the Campus Martius I mean. The Sallustian obelisc, though in part copied, has in one of the phylacteries or the throne of Osiris reversed, which shows it is false, thus .

Pray find out what is a vase in Coptic, ancient or modern. I had mislaid this when Mr. Westmacott went to Rome. I have now got for you my work on the Troad—as to La Croze I have sent to London for it, as I can go on no longer without it.

There is another stone at Leghorn (Livorno) belonging to the great Drouetti, *pray pray* do what you can to get a copy of it; it has the Greek, Coptic, and hieroglyphic also as I understand. Have you no correspondent who would contrive this, or even a part of it, for love or money—Pray try. I will bring the Rosette inscription with me and the translations from the Greek and from the Egyptian—You will do much if you can get this copied at Livorno. I send this by Mr. Page from Constantinople whom I hereby present to you and beg you to patronise.

Ever, Dear Barone, yours,

WILLIAM GELL.

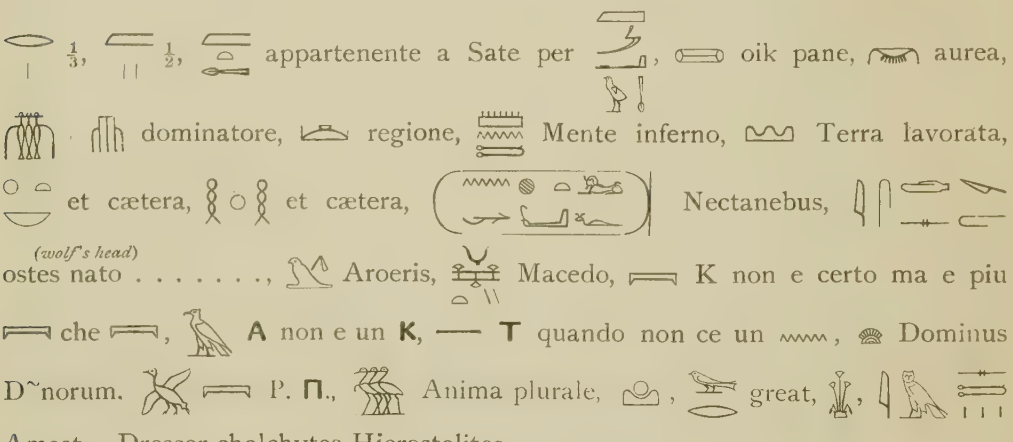
Naples, *Jan. 1st*, 1822.

The second document, 7·5 inches by 7.9 inches, thin paper, is the cover of a letter in the handwriting of Seyffarth.

"Al Chiarissimo Signore,
Il Signor Professore Nibby,
Via di Ripetta No. 210,
Roma."

Postmarks: "22 GENNAI" "CHAMBERY" and a partly illegible one, ". . . . DA GENOVA." "C. F. 4. R."

On the inside of the sheet, memoranda in the handwriting of Gell as follow:—


1/3, 1/2, appartenente a Sate per , oik pane, aurea, dominatore, regione, Mente inferno, Terra lavorata, et cætera, et cætera, Nectanebus, (wolf's head) ostes nato . . . . . , Aroeris, Macedo, K non e certo ma e piu che , A non e un K, — T quando non ce un , Dominus D˜norum. P. Π., Anima plurale, , great, , Amset. Dresser cholchytes Hierostolites.

Apparently Seyffarth wrote from Chambéry to Nibby at Rome. The letter was probably sent on to Gell, who used the cover for scribbling notes on hieroglyphs in the same fashion as he did on the sheet published in *J.E.A.*, 1915, Pl. XVII. Both the sheets of notes are clearly in Gell's writing. Unfortunately there is no date to these notes. Most of them are fairly correct, which suggests that they are rather later than the attempts on the Rosetta stone.

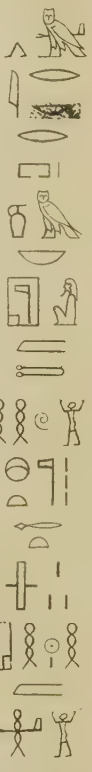
W. M. F. P.

SCULPTURE OF PTOLEMY I.

THE sculptured slabs of Ptolemy I (now in the Ashmolean Museum at Oxford) were found in 1894 in the temple of Koptos. They form part of an intercolumnar screen "between the eastern pair of columns, north of the Isis steps." They were described by Prof. Petrie (*Koptos*, p. 19), and the "Khonsu" standard was figured by Dr. Seligman and myself in *Man*, XI, p. 166. Beyond this the sculpture has received no attention.

The scene represents the deified king, or his statue, standing in front of a rectangular object. He wears the crown of Lower Egypt, and holds a plain staff in his left hand. The rectangle is decorated on the top and along the right side with a border of *kheker*-ornaments, giving the appearance of the gates depicted in the Book of Gates. As the *kheker* represents the heads of papyrus above the top of a mud wall, it seems likely that this rectangular object is not a building but an enclosure, in all probability a sacred enclosure. Within the rectangle is a doorway across which a curtain is hung, pulled diagonally to one side. Above the king's head is the disk of the sun, with a uraeus hanging from each side. An *ankh*-sign is slung round the neck of each snake, and hangs low, so as to enclose a space in which is the word , *Behdeti*, "He of Edfu." In front of the king and facing him stands a small figure of the Anmutef priest, making an offering of incense with the right hand, and raising the left in the attitude of adoration. He wears the traditional costume of the Anmutef priest; the hair arranged in the long side-lock of youth, and a leopard-skin with the tail hanging down, covers the front of the body and the rest of the clothing. Before the king and behind the Anmutef are six standards, alternately high and low: they are placed in the following order:—(1) Ibis, (2) defaced, (3) Hawk, (4) "Khonsu," (5) Upuaut with snake and ostrich feather, (6) Emblem of Min surmounted by two upright plumes. They face the same way as the king, and in early representations of a similar scene are carried by human or emblematic figures. In this example, however, the standards are stationary. Facing the standards is the figure of a woman standing. Her headdress consists of a long curled wig, partially covered by a vulture and surmounted by a low circular crown, from which rise two horns with a disk between; in her right hand she holds a papyrus sceptre, in her left an *ankh*.

Inscriptions.—In front of and rather above the king, three vertical lines: (1) illegible, (2) "King of the South and North, Lord of the Two Lands, beloved of Amon, chosen of Ra, (3) Son of the Sun, Lord of Diadems, Ptlum[ys]."



Above the head of the Anmutef priest, one horizontal line, which I suggest may be translated: "That which is given as an offering by the king." There is only one visible, but there is room above for a horizontal sign of that size. The bird must be as there is no back-claw. The rectangular sign appears to be □, and I suggest that the lost sign above may be , of which □ would be the phonetic complement.

Between the king and the Anmutef priest, one vertical line: "Making fire . . ." The end of the inscription may be , as in Mariette, *Abydos*, I, Pl. 43; the usual termination of the inscription is (see Mariette, *Abydos*, I, Pl. 24 i).

Between the standards and the goddess, one vertical line: "Isis, the great one, Mistress of all the Gods." In the similar scene at Abydos the goddess holds a sistrum, with an inscription: "Playing (*yrt*) the sistrum."

Above the head of the goddess are a few signs which, though perfectly legible, cannot be translated without the context.

Behind the goddess, one vertical line: "Come then to the temple. Khnum, lord of the temple, is in rejoicing. The Great Ennead, who are in the House, are in rejoicing."

See transcription here.

Beyond the inscription to the right is a vertical ornamental border of rectangles of the usual type.

M. A. Murray.

Scene of Ptolemy I, Temple of Koptos.

Nubian Sandstone.

Oxford.

REVIEWS.

"Emperor"-worship in Egypt.—S. A. B. MERCER. (*Journal of the Society of Oriental Research*, Chicago, 1917). 8vo. 9 pp.

The evidence of worship of the king during his life is here described from the various sources. The first is a stele of adoration of Aohmes I, Nefertari *onkhti*, or living, and Amenhetep I. As the queen was living, her son was presumably alive at this adoration. Yet this is by no means certain: she was born about 1613 B.C., and Amenhetep I died 1541, when his mother was 72, if she survived. So it is not at all impossible that she might be living when both husband and son were deified as dead. Conclusions from epithets must be very carefully dealt with; at Gurob many steles of the adoration of Tehutmes III show the king with the epithets usual during life (*neb taui, neb khou, da onkh ma ra zetta*); and yet the names of the adorers, taken from Ramessu II, show that Tehutmes was dead centuries before. This much must be said in caution, without denying the adoration of the living king.

Another point must also be observed in the enquiry; the king at the *sed* festival became identified with Osiris, and would then naturally be worshipped, but is he adored as king before his Osirification? The instances of adoration of the king under Amenemhot III, Merenra, and Ramessu II, may all be after Osirification. The inhabitants of Niy adoring Amenhetep II in his first year are Mesopotamians propitiating a conqueror. The Ethiopians at Kubban may worship, but they are not Egyptians.

The best evidence of worship of the king is in the Harris Papyrus, where Ramessu IV puts in the mouth of his father the injunction to the people to bow to him, serve him always, adore him, implore him, magnify his goodness as they do to Ra. This must apply to the king at his accession, and before Osirification. The divine descent of the kings, as sons of Ra in the Vth dynasty and sons of Amen in the XVIIIth dynasty, would be naturally a basis for worship. Thus we may accept the thesis of Dr. Mercer, although much of the evidence which he adduces may not really support the worship of the king before Osirification.

Some useful cautions are given against attributing all our ideas of a deity to the word *neter* in Egyptian. This would be an anachronism like supposing that the Greek intended by *theos* all that we mean by "God." Both to the Egyptian and the Greek the gods were not far removed from men in time or in powers, they might die and be buried, and they were all subject to Fate like men.

Bas-reliefs from the Egyptian Delta. (*Bulletin of the Metropolitan Museum of Art*, March, 1917.)

These are two trial pieces, about 10 inches by $8\frac{1}{2}$ inches, of rather peculiar work, one of a king's head, the other of titles. From the combination of the

titles *nesut bati*, vulture and uraeus, which was usual in the earliest dynasties and disappeared after the VIth, and from the style of the *su* sign, Mr. Winlock concludes that these may belong to a very early date. The king's head is peculiar for the striation of the whole crown of Lower Egypt, from top to bottom, a type not known elsewhere. The false beard is not only ribbed across, but striated with hair lines wavy all the length. This is a peculiar feature only known in the Old Kingdom; in late times the beard is merely smooth. The line of eye paint extends backward to the crown, which is also early detail, seen on the figure of Khosekhem in the IInd dynasty. We would go a step further than Mr. Winlock, and say that the face, especially the nose, is so closely like that of Sa-nekht at Maghara, that it is probable that the work is of the IIIrd dynasty, perhaps of that king. The pieces are stated to have come from the Delta; this cannot mean far north, as all the early levels of the northern Delta are under water. Heliopolis would be the most likely source, especially as sculpture of Neterkhet was found there by Schiaparelli. New York is fortunate in getting pieces of such rare early sculpture.

The Egyptian Expedition, 1915–16. (*Bull. Metrop. Mus.*, May, 1917.)

This is a record of the excellent systematic clearance at Thebes carried on under Dr. Lythgoe's direction. At the beginning of the long causeways leading to the temples of Deir el-Bahri, the courtyard of a large tomb of the Middle Kingdom has been cleared, having a colonnade along the side in which is the tomb entrance. Many other burials were cut in the rock along the sides and in the floor of the court. At the top of the filling were Ptolemaic tombs dated to Cleopatra II by a coin. Below these some large beads of Sheshenq "and numerous pottery figurines and vases in the form of horsemen and cocks." These will be important as dating other pottery figures, and the cocks must be the earliest examples in the West, pointing to their having been introduced by the Bubastite dynasty from Persia. A little lower was a foundation deposit of Ramessu IV, for a building of which only two column bases were left. Further down were traces of the lower temple of Hatshepsut at the foot of the causeway. It seemed that only the foundation deposits were laid down, and the south side of this temple had never been begun. This was over a mass of chips which filled the sunken square court of a large Middle Kingdom tomb. This appeared to be of the latter part of the XIIth dynasty. Many tombs of the family and household had been cut in the sides of the court; and early in the XVIIIth dynasty, pits had been sunk for burials, and little shrines built above them. Such are very rarely found preserved, as at Hawara (*Roman Portraits*, XVII, XVIII). In one of these early burials is a very unusual painted stele, representing two brothers (?) seated face to face embracing each other, Amenemhot and Antef; a sister or wife, Ay, is behind the former; an aunt, Hapy, stands making the offering behind Antef. The tombs in the side of the court had been repeatedly used, until one contained no less than thirty-three coffins crowded in, one on the other. These were painted with feather pattern, and probably of the XVIIth dynasty. The gold beads found were of the style of those in the burial in *Qurneh*. A four-stringed lute was also found.

The pit tombs in the floor of the court were the richest. They were clearly of the early XVIIIth dynasty, and necessarily before Hatshepsut who built over the court. Some of the side tombs were also as late as this, as they had tubular kohlpots. The largest tomb chapel, with an enclosure round it, was for a superintendent, Khay. The burials continued to the reign of Tehutmes III, as a scarab

of his was found in this pit, a matter hard to reconcile with Hatshepsut building over it. It must be supposed that such scarabs were made during the reign of Hatshepsut.

Another pit proved to be the more valuable. The pottery was white with red and black painting, characteristic of the age of Tehutmes III. Beside more usual objects, there was a glass hairpin with rosette head, the earliest glass pin known; a kohlbox with a bronze hinge to the lid, of modern type; a massive porphyry bowl of the Ist dynasty, evidently reused; and a fine bronze sword with handle of inlaid wood. On one burial was a heart scarab, with human face; it was mounted in gold plait border with T-shaped straps on the back. The engraving is between the styles of Nos. 8 and 9 in Pl. XLVII of *Scarabs*, and thus it justifies the dating of those to the XVIIIth dynasty. A very peculiar weapon found by a body is called a two-handled sword. It seems to be a patchwork of a large bronze spear-head, like that of Kames, to which has been fitted a wooden handle covered with sheet gold. In the drawer of a game board were two knuckle bones along with twelve draughtsmen, showing how the value of each player's move was determined. A fine lyre was also found here. Altogether this is a very interesting variety of objects, closely dated, and the full publication of them is the next duty of the finders.

The following section deals with the clearing of the tomb of Puamra by Mr. N. de G. Davies. After the usual trouble with native squatters, the whole of the court of this tomb was acquired and cleared; the fragments of the sculptures were collected, and over two hundred of these have been rebuilt into a restoration of the walls. The sculptures are of the best style of the XVIIIth dynasty, but the sarcophagus in the well below was a very clumsy mass, only vaguely following the human form. So disappointed is Mr. Davies that he does not even mention the material. The forty excellent illustrations and plans are most welcome, but we hope that they will not be allowed to excuse a full publication. Why should not the work of the winter 1915–16 appear in full by May, 1917? The English volumes do not take longer than this to be issued, at least before the war.

Museum of Fine Arts Bulletin. Boston, June, 1917.

This contains the report of Dr. Reisner's excavations of 1915–16, more than a year before. The temple of Amen and the royal pyramids at Napata, the Ethiopian capital, were explored. The pyramids had not been entered in modern times, and their system was unknown. Now it is found that the entrances are far out from the pyramids, some metres beyond the door of the pyramid chapel on the east side. Twenty-five pyramids were cleared, but all had been completely plundered anciently. Only in one, where a fall of roof threatened, was found a hinged bracelet of gold, of the usual Ethiopian style. Further, one of the fourteen pyramids of Nuri was opened, and found to be the tomb of the well-known king Aspalut. In it were alabaster vases, gold cylinders, beads, etc., left by plunderers. It is hoped that the other Nuri tombs may yield more.

The temple of Amen is described as extensive, equal to any temple in Egypt after Karnak. In front of the pylon, was found, beneath a Meroitic level of building, a deposit of broken statues of kings, from which was built up a figure of Aspalut, and another of Tirhaka, all but the head. On the opposite side of the temple, in a clearance, was found another group of broken statues, from which came the head of the previous Tirhaka statue, and other figures of Tanutamen, Amenanal and Senka-amen-seken, with headless figures of Amenanal, Queen Amen-mer-nefer,

and two of Tanutamen. The work of these is stated to be of the full Egyptian style, except that Senka-amen-seken shows some falling off.

Five temples were exposed by the clearances, and all of them had been rebuilt at various periods. The earliest foundation was of Tehutmes III, shown by inscriptions, and Tehutmes IV, by foundation deposits. The latest work is late Meroitic. In the great temple five periods of building were traced.

A temple attributed to Senka-amen-seken, by his name on the pylon, proved to have been built by Atlanersa. The altar was dedicated by him, and many votive offerings and statuettes were found here. The temple had been smashed twice over by a fall of the cliffs above burying it; in this way much more was left of the smaller objects than on an exposed site.

Egyptian Records of Travel in Western Asia, Vol. II.—DAVID PATON. 60 pp. 1916. (Princeton University Press.)

Mr. Paton has now published the second volume of his *Egyptian Records of Travel in Western Asia*. The accuracy of detail as shown in the complicated system of setting forth each text with references to its every publication, the mass of numerals and variations of lettering in the transliteration, the wealth of detail, are amazing. Whether the result is commensurate with the vast amount of care and time bestowed upon it is another matter. For the student a book of reference, such as this is intended to be, should be simplified as much as possible; otherwise its value is always lessened, sometimes even destroyed. This is most markedly the case in regard to the column devoted to transliteration. This column is a monument of anxious and careful labour, of meticulous precision, of extraordinary accuracy, but the practical result is that no one will use it. No one has the time to spend in patiently reversing the numerals into hieroglyphs with the aid of the sign-list in Erman's Grammar; it takes too long and is not worth while. If Mr. Paton had only given the signs themselves instead of the transliteration, and had expended the same amount of care in making the publication accurate, that column would have been the most useful in the whole book. It is difficult to know whether Mr. Paton intends his book for advanced students or for beginners. If for the former the elementary information—such as the general description of tombs on p. 17, and the phrase "In the Orient the Shepherd follows his flock," on p. 38—are out of place, while for the beginner the subject and arrangement are unsuitable. The needs of the two classes of student are quite distinct, and an author should be very clear as to which class he wishes to address his work. Though by means of its faulty arrangement the book may fail in its aim of being the standard reference book on the historical geography of Western Asia, yet the pains and labour bestowed upon it are not thrown away, and Mr. Paton will rank as one of the most accurate scholars that America has produced.

M. A. MURRAY.

Antiquités en fer et en bronze, leur transformation . . . . et leur conservation.—G. A. ROSENBERG. 8vo. 92 pp., 20 figs. Copenhague. 1917.

This useful work is published by the Fondation Carlsberg. The main line of it is the detailed study of the compounds of iron and copper that are formed, and the proper treatment of them. The various sources of decomposition are stated, and the changes that can be experimentally produced. Chlorine is the great enemy of all metals; in no way can it be rendered harmless in combination, and it must be removed by some means. A new process here is the testing by damp air.

In a glass jar with moisture, iron or copper begins to sweat out deliquescent salts, the appearance of which is detailed as showing the nature of the compounds involved.

In the most usual case of iron, which is a metallic core with much oxidation crusted over it, the method adopted is to pack with asbestos paper and bind up closely with iron wire. Heat red-hot for 15 minutes, thus driving off most of the chlorine. Plunge red-hot in saturated solution of alkaline carbonate. Boil in that, 2 to 6 hours. Boil in distilled water, 12 hours. Soak in water slightly alkaline; next day in distilled water. Heat, and put in superheated paraffin wax at 260° F. until no bubbles arise, 6 to 14 hours. Unwrap and clean off surplus wax. A special cement is described for paraffined fragments.

For bronze, the detection of a dangerous chloride patination from a harmless carbonate patination is done in the damp-air chamber. The varieties of patina are fully described, but as they are usually mixed, no single treatment is entirely applicable. The writer objects to the drastic stripping of bronzes by electric reduction, as advocated in Berlin. He has devised a process for the reduction of dangerous patches of chloride, without any alteration of the harmless carbonate. This is by wrapping in foil of tin, aluminium, or zinc, and placing in damp air. The chlorides sweat out and are immediately decomposed by the foil. In order to ensure action, any thick lumps must be cut open, or drilled into with a dentist's drill. To prevent the deliquescent chlorides soaking on to the rest of the metal, a jelly may be put over the object which only retards the action, but allows the chlorides to pass through freely. For local treatment of patches on large objects a plaster may be made of tin, zinc, or aluminium powder, mixed with ½ per cent. glue, 5 per cent. water, and 2 per cent. glycerine, and laid on to the dangerous parts. Thus the processes here are strictly conservative, and remove nothing that can be left safely in place. They are applicable to the better preserved objects, and do not touch the cases of those which need stripping. The writer does not seem to have studied the condition of the metal as a mixture of two or more alloys, one of which will always tend to change by contact with the other, and one of which may be entirely removed, leaving a sponge of metal.

Atlantis.—PIERRE TERMIER. (*Smithsonian Report*, 1915). 8vo, 16 pp. Washington, 1916.

The Director of the Geological Survey of France gives here an outline of the subject of Atlantis, which has for many minds a fascination like that of Perpetual Motion or the Lost Tribes. That there have been great shiftings of land and water in later geologic times is well known, and will be familiar to every reader of that delightful little book, Gadow's *Wanderings of Animals*. Down to the Middle Tertiary Age, Africa and South America were connected. The Atlantis question turns on whether there were any lands which sank into the Atlantic within human tradition, and which could have given rise to the account of Atlantis, embellished by Plato. As the Atlantides were said to have ruled over the South Mediterranean, including Libya and Egypt, the question concerns us here.

A zoologist, M. Louis Germain, studied the subject of the distribution of plants and animals bearing on the Atlantis question. The present territorial fauna of the archipelagoes of the Azores, Madeira, Canaries, and Cape de Verde, are of continental origin, with indications of adaptation to desert life. They are linked with the Mediterranean region, but differ from the equatorial African. The latest

deposits of the Canaries—quaternary—are like those of Mauretania, with the same mollusca. Several other connections of rather earlier period, between Africa and the West Indies, do not touch the recent, or human, period. It seems, however, very probable that the Atlantic islands were still linked to the African coast long after man had spread on the earth, and hence a tradition of a great submersion might well have survived.

Catalogue of the Collection of Greek and Roman Antiquities in the possession of Lord Leconfield—Hon. MARGARET WYNDHAM. Sm. 4to, 142 pp., 86 plates. 1915. (Medici Society.)

This catalogue contains one bust with an Egyptian interest; it is of a boy consecrated to Isis. The mark of consecration is the thick mass of hair projecting on the right side of the head, while the rest is closely cropped. It is attributed to the third century A.D., but is early in that period by the quality of the work. As a mark of the devotion to Isis in Italy this is another link of the orientalizing of the West. The catalogue should be mentioned as one of the most perfect examples of the utilisation of a private collection; the photogravure plates are excellent, and the lighting good, though it might have been better from the top in some cases; the text is concise and sufficient. In every point it shows a dignified utility without frivolous luxury. The only regret is that it is limited to an edition of 200 for private circulation. At least it can always be used in the Yates Library at University College.

PERIODICALS.

THE second part of Vol. XIII of the *Bulletin de l'Institut Français d'Archéologie Orientale* has been issued under the direction of M. Georges Foucart. More than fifty of its pages are filled by an essay by M. Georges Daressy upon the geography of Egypt, from the time of the Mahomedan conquest, as illustrated by an Arabic work entitled *The Book of the Buried Pearls*, which professed to give a catalogue of sites whereat hidden treasures might be found. These include, not only old Egyptian temples and other ruins, but also Christian churches and monasteries, caves and grottoes, and certain hills, mounds and lakes.

The Book of the Buried Pearls and of Precious Mystery, which was re-published from three manuscripts some ten years ago by Ahmed bey Kamal, is, doubtless, an imposition upon its readers; but a work promising to foretell places where buried treasures may be expected to be disinterable, especially in a country such as Egypt, was certain to find credulous purchasers. How much destruction of monuments and remains of ancient art its pages have been responsible for, we shall never know.

M. Daressy is utilising the only feature of the text that can be made useful for science, in endeavouring to decide both the ancient and the modern names of the Arabic titles it gives for many of the sites it enumerates. For this purpose he has searched the works of Makrisi, Abu Saleh, the *Geography of Coptic Egypt*, by M. Amélineau, and all modern topographical treatises and maps. He does not mention the *Geography of Lower Egypt at the Coptic Period*, by the younger de Rougé, but doubtless made use of that excellent little work. Many of M. Daressy's identifications are, however, derived from his own erudition.

It is uncertain whether the author, in mentioning edifices at certain sites, knew they were still in existence, even if mostly ruined, when he wrote, or whether he was merely a copyist of older gazetteers, and the monuments may have disappeared before his time. For instance, at Bahnasa, the ancient Oxyrhynchus, he gives the church of "Nestofor." This M. Daressy points out should be Christopher. Abu Saleh misnamed it Istafoura. In the Synaxarium it became Akhristofares. There is no trace to-day of this or any other edifice of ancient times at Bahnasa.

Doubtless there is some method, or excuse in certain instances, for the promise of wealth for fortune hunters who follow the author's advice. Thus he states that at (Tel) el-Farain "If you search you will find a coffer containing treasure, coins and jewellery." Now one of the mounds of this Tel is called the Kom el-Sagha, or jewel mound. This must have arisen from a "find" there at some time, probably before the composition of the *Book of the Buried Pearls*, whose author, knowing of the occurrence, prophesied further results of the same character.

The article of M. Daressy is only the first upon this subject, and so further comment is postponed for the present. On this occasion he provides three maps, the last reaching as far south as Sohag.

Another very interesting paper in the *Bulletin* is M. Henri Gauthier's "La Nécropole de Thebes et son Personnel," which treats of the religious fraternity, or Association of Employees connected with the Theban necropolis, who seem to

have been always buried upon the hill of Deir el-Medineh during the period of the XVIIIth–XXth dynasties. They called this sacred site "the place of truth" (or the true place) to the west of Thebes , and from their sepulchral records it is possible to enumerate the various positions in the hierarchy, or rather grades of employment, of the cemetery servitors.

Some six of the posts had been catalogued by Brugsch; and Maspero, after his mission to Italy somewhere before 1880, utilising the many antiquities from Thebes in the Turin Museum, augmented the number to eight. So vast has been the advance of the science of Egyptology that M. Gauthier has been able to increase the list to forty titles, and doubtless his article will lead other scholars to point out a few more. One of the additions of M. Gauthier is that of "Reis of the workmen," , which he derives from the text found upon a Hymn to Amen Ra, discovered in the present year, in a tomb uncovered at Deir el-Medineh.

M. Gauthier collects the forty members into seven categories. First, the mere workmen: masons, path and terrace makers. Second, artizans: sculptors, painters, carpenters, wood carvers. Third, administrators: clerks and secretaries for the funds bequeathed for upkeep of tombs, paymasters, and accountants who apportioned the expenditure for the funerary offerings and festivals, which were annual, and in sepulchres of the wealthy more frequent. Fourth, servants of all descriptions required to be employed in the upkeep of these ceremonials and of the repair and good condition of the tombs. They may be called Domestics of the Dead. Fifth, the officers and superintendents of the police and guardians of the necropolis. From the Abbott papyrus of the trial of the tomb thieves, we know how necessary these were, and what illicit emoluments the dishonest members of this branch of the fraternity received by way of baksheesh for purposely neglecting their duty. Sixth, priests, officiants and clergy of all grades who knew how to canonically perform all the sacred ceremonies of the cult for the dead, the magic rites, and recitations, faithfully following the formulae bequeathed from bygone ages of priestcraft. M. Gauthier's seventh category is merely a convenient receptacle, as he naively says, for containing all the remaining titles that cannot properly find a place in the six others.

Three of the grades have the special appellation of *sedem ôshu* , which he renders "servitor," as did Sir Gaston Maspero. He appends twenty-one instances of this title upon various records, adding the twelve provided by Maspero in the second volume of the *Recueil de Travaux*.

Among the latter is the "Servitor of the administration of the palace pâtisserie," (or confiserie), a close ally of the royal chief baker whose monument is at Copenhagen, and certainly not a distant connexion of the Pharaoh's chief baker in the story of Joseph.

Mr. F. W. Read is writer of an article upon the meaning of the word , which Dr. Alan Gardiner renders "Dragoman." He cites a number of papyri and inscriptions tending to show that its concept is best conveyed to us by the term scholars. The same writer supplies a paper upon "Boats or Fortified Villages," referring to the representations upon prehistoric pottery.

J. Offord.

NOTES.

In Dr. W. D. Spanton's most interesting and charmingly illustrated account of the "Water Lilies of Ancient Egypt," in Part I of Ancient Egypt, 1917, we do not find mention of the use of these flowers in painted pavement decoration. Many such specimens can be seen in the Museum of Antiquities at Cairo, on the walls of a secluded upper gallery. These plaques were brought from Akhenaten's Palace at Tell el-Amarna. The beaten earthen surface of the floors of halls of reception here was thickly covered with lime to make a stucco pavement. The smooth surface was then painted over with varied designs representing waterways, with aquatic birds and beasts among the vegetation; the clumps of grasses, flowering plants, and oxen running among the reeds, are all depicted in various colours. Lotus and papyrus are frequent, and the colour scheme is rather peculiar. Painted on a white ground, red, blue, and green predominate. Foliage and stems green with red and blue flowers. The Lotuses were mostly blue with red sepals and edge to the floral cup; some were green with a red edge, buds were painted similarly with green stalks. Among many other forms of plants, which we need not discuss, were red poppies and blue cornflowers (see Petrie, *Tell el-Amarna*, Pls. II, III, IV).

On page 3 there is a brief allusion to the sepulchral wreaths, specimens of which can be studied in the same galleries. The elaborate method of formation of these wreaths is very striking, and accounts for their having been preserved intact from the time of the XIXth dynasty to the present day. They were many yards long; on a firmly plaited palm-leaf fibre foundation were tied a close succession of leaves of *Mimusops Kummel*, a tree belonging to the family *Sapotaceae*, with large oval leathery leaves. Each mimusops leaf is carefully split and folded, and tied to the foundation with a narrow thong of fibre, and within each leaf and projecting beyond it is placed a petal of *Nymphaea Coerulea;* these petals are marvellously preserved, smooth and flat, and have dried from the rather thick fleshy substance to a thin membranous tissue, in colour either brown, pale brown, or nearly white. When the mummy of Rameses II was re-decorated during the XXth dynasty, the new mimusops wreaths were adorned with petals of *Nymphaea Lotus*, which can be distinguished from the blue one, in the dried state, by a more distinct veining. Many other flowers were used as well as water lilies, as the sweet-scented "sunt" (*Acacia Nilotica*), but we restrict our remarks to the Lotus.

Eleonora Armitage.

The following Index was in preparation for this number long before there was any idea that printing would be suspended by the war. It is intended to give an index every four years, as being the most convenient interval for reference. The white covers should be bound in with the parts, as being the title pages and contents. The summaries of Journals will be resumed from the present point when the next number can be issued.

SCOTTISH WOMEN'S HOSPITALS, LONDON UNITS.

In the last number, we announced the collection of funds from members of the British School of Archaeology in Egypt for the London Units of the Scottish Women's Hospitals. I would also invite the help of readers of this journal towards the maintenance of these hospitals.

The list of donations issued in August amounted to £237 6*s.* 6*d.* I append a second list amounting to £227 8*s.* 11*d.*:—

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The Edinburgh Units.—The Scottish Women's Hospitals were founded by Dr. Elsie Inglis and her colleagues at the outbreak of the war, and have served gallantly in many countries of the Allies. They began work for the Belgians at Calais, and other Units were equipped and sent forward to serve the French at Royaumont and Troyes; then Dr. Inglis took her own Units to Serbia, and other Units have served in Greece, Macedonia, Corsica, and elsewhere.

The hospital at the Abbaye de Royaumont, under the French Red Cross, has been considered one of the best in France. A hut hospital is now placed in advance, near the firing line. Three canteens have been established in this part of France.

The hospital at Troyes was under the French Command, and was the earliest hospital under canvas in France. By request of the military authorities it accompanied the French Expeditionary Force to Salonika. An orthopaedic department has lately been added.

At Ostrovo there is a hospital, supported by American contributions, which has an advance station up country, near the firing line, and Transport Column attached.

A hospital for tubercular treatment for Serbians is being opened in the south of France.

In Corsica the Scottish Women's Hospitals relieve Serbian refugees.

The London Units.—Dr. Elsie Inglis' Serbian campaign, 1915–16, was a triumphant effort, which seems like an epic to those who watched it. Her hospitals were justly famed. Typhus was beaten back, and the Serbians will never forget our doctor's name. A fountain at Mladnovatz, commemorating her work, still remains.

The next campaign, 1916–17, was in Rumania, where her hospitals and Transport Column were attached to the Serbian Divisions, and suffered with them three retreats. After an interval of work for Russians she rejoined her Serbs, and the crowning feat of her life was the removal, in spite of every obstacle, of these Serbians out of Russia. Then, November 26, her life was laid down.

Dr. Inglis' last wish was to dispatch new Units to serve those same Serbian Divisions in their new destination. She contemplated a base hospital of 200 and field hospital of 100 beds, with motor transport for both, and a staff of five doctors and forty sisters and orderlies. Our advance Unit and equipment will go forward at once, and it is to provide and maintain reinforcements that help is required.

H. Flinders Petrie,
Hon. Secretary,
London Units Scottish Women's Hospitals.

University College,
Gower Street, W.C. 1.

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